GRADUATE SCHOOL *of* ARTS AND SCIENCES

WAKE FOREST UNIVERSITY

2026-2027 BULLETIN

June 2026

WAKE FOREST UNIVERSITY
GRADUATE SCHOOL OF ARTS AND SCIENCES

ANNOUNCEMENTS FOR 2026-2027

www.wfu.edu

The course offerings and requirements are continually under examination, and revisions are expected.
This Bulletin presents the offerings and requirements in effect at the time of publication
and in no way guarantees that the offerings and requirements will remain the same.
Every effort is made to provide advance information of any changes.

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HOME

The 2026-2027 Bulletin provides course descriptions and curricular requirements effective Fall 2026 as well as current information and policies for undergraduates in Wake Forest College and the School of Business and for graduate students in the Graduate School of Arts and Sciences, School of Divinity, and School of Professional Studies.

THE UNIVERSITY

Wake Forest University is characterized by its commitment to the liberal arts and professional education, its strong sense of community and engagement in society, and its encouragement of advancing the spirit of *Pro Humanitate.* Translated as "for humanity," *Pro Humanitate* calls upon the entire University community to engage in the fundamental questions about what it means to be human.

As an institution which respects free inquiry and expression, the University is known for upholding the teacher-scholar ideal; expecting exceptional teaching and outstanding research, scholarship and creativity; and promoting faculty interaction with students both in and out of the classroom that nurtures their intellectual and personal development.

Wake Forest University also welcomes the challenges of cultural diversity and pluralism in all their forms and is committed to addressing these challenges through the cultivation of diverse learning communities that reflect the world in which students and faculty live, work and lead.

Background

In 1834, Wake Forest Manual Labor Institute was founded by the Baptist State Convention of North Carolina. Re-chartered in 1838 as Wake Forest College, Wake Forest is one of the oldest institutions of higher learning in the state. The School of Law was established in 1894 and was followed by a two-year medical school in 1902. Wake Forest was a college for men until World War II, when women were admitted for the first time. In 1941, the medical school moved to Winston-Salem to become affiliated with North Carolina Baptist Hospital and was renamed the Bowman Gray School of Medicine.

In 1946, the trustees of Wake Forest and the Baptist State Convention of North Carolina accepted a proposal by the Z. Smith Reynolds Foundation to relocate the College to Winston-Salem, 100 miles to the west. Charles and Mary Reynolds Babcock donated much of the R.J. Reynolds family estate as the site for the campus, and building funds were received from many sources. From 1952 to 1956, the first 14 buildings were constructed in Georgian style on the new campus. The move to Winston-Salem took place in the summer of 1956; the original, or “old” campus, is now home to Southeastern Baptist Theological Seminary.

Following the move, Wake Forest grew considerably in enrollment, programs, and stature and became a university in 1967.

The Charles H. Babcock School of Business Administration, first established in 1948, admitted its first graduate students in 1971. In 1972, the school enrolled only graduate students and the name was changed to the Charles H. Babcock Graduate School of Management; departments of business and accountancy and economics were established in the College. In 1980, the Department of Business and Accountancy was reconstituted as the Wayne Calloway School of Business and Accountancy. In 2009, the Wayne Calloway School of Business and Accountancy and the Charles H. Babcock Graduate School of Management officially merged under the name Wake Forest University Schools of Business, and in 2013, the name was changed to the Wake Forest University School of Business.

The Division of Graduate Studies, established in 1961, is now organized as the Graduate School and encompasses advanced work in the arts and sciences on the Reynolda Campus, the Brookstown campus and the Wake Downtown campus.

In 1997, the medical school was renamed the Wake Forest University School of Medicine. The University in 2001 created a subsidiary entity, Wake Forest University Health Sciences, which operates the Medical School and is governed by a board of directors that includes in its membership University trustees and the Wake Forest University president. In 2016, the School of Medicine moved its medical education programs to Innovation Quarter in downtown Winston-Salem. n 2020, a health system integration arrangement was entered into with Charlotte-based Atrium Health, Inc. and plans were announced to add a second Medical School campus in Charlotte, which will welcome its first students in 2025. In 2022, Advocate Aurora Health, located in Chicago, Illinois and Milwaukee, Wisconsin, and Atrium Health announced their formal combination creating Advocate Health, which focuses on best meeting patients’ needs by redefining how, when and where care is delivered. The Wake Forest School of Medicine is the academic core of this combined healthcare system.

The School of Divinity was established in 1999 and is located on the Reynolda Campus, and the School of Professional Studies was started in 2021 in Charlotte.

Governance

University governance is by an independent Board of Trustees; there are advisory boards of visitors for Wake Forest College, each professional school and Z. Smith Reynolds Library.

Campuses

The College, the School of Business, the School of Law, the Graduate School and the School of Divinity are located on the Reynolda Campus in northwest Winston-Salem. The Wake Forest School of Medicine is located in Innovation Quarter, four miles from the Reynolda Campus, in downtown Winston-Salem. The Brookstown Campus, also located in downtown Winston-Salem, houses select Graduate School programs. The Wake Forest University Charlotte Center is home to select graduate business programs and the newly-formed School of Professional Studies, established in 2021. The University also offers instruction regularly at Casa Artom in Venice, at Worrell House in London, at Flow House in Vienna, in Wake Washington on Dupont Circle in Washington, D.C., and in several other places around the world.

Academic Offerings

The College offers courses in more than 40 fields of study leading to the baccalaureate degree.

The School of Divinity offers the doctor of ministry, master of divinity, and master of arts in religion degrees and joint degree programs in law, education, counseling and sustainability in conjunction with other divisions of the University.

The Wake Forest School of Business offers a four-year bachelor of science degree, with majors in accountancy, business and enterprise management, decision analytics (offered jointly with the Department of Statistical Sciences), and finance; and four graduate degree programs: master of science in accountancy (MSA), master of science in management (MSM), master of business administration (MBA), and master of science in business analytics (MSBA).

The School of Law offers the juris doctor, doctor of juridical science degree (SJD), master of studies in law degree (MSL), and master of laws

in American law degrees. The school also offers joint JD programs with the School of Business, the School of Divinity and the Graduate School.

In addition to the doctor of medicine degree, the Wake Forest School of Medicine offers, through the Graduate School, programs leading to the master of science and doctor of philosophy degrees in biomedical sciences. The School of Medicine and the School of Business offer a joint MD/MBA program.

The Graduate School confers the master of arts, master of arts in education, master of arts in liberal studies, and master of science degrees in the arts and sciences and the doctor of philosophy degree in biology, chemistry and physics. The Graduate School also offers an MFA in documentary film and dual degree programs with the School of Medicine and the School of Business. Additionally, the school also offers joint degree programs with the School of Law and the School of Divinity.

As the newest school at Wake Forest, the School of Professional Studies provides graduate degree and non-degree programs, including certificates and other credentials, focused on supporting today's working professionals with the skills and knowledge to take their careers to the next level. It also offers custom educational programs to corporate partners to support talent development needs.

Equity in Athletics

The Higher Education Act requires that institutions of higher education make available by October 15 of each year a copy of the Equity in Athletics Disclosure Act annual report to any student who requests one. Please contact the Athletic Department to request a copy of this document.

University Mission and Purpose

Statement of Mission and Purpose

Wake Forest is a university dedicated to the pursuit of excellence in the liberal arts and in graduate and professional education. Its distinctiveness in its pursuit of its mission derives from its private, coeducational, and residential character; its size and location; and its Baptist heritage. Each of these factors constitutes a significant aspect of the unique character of the institution.

The University is now comprised of seven constituent parts: Wake Forest College, the Graduate School of Arts and Sciences, the School of Law, the School of Medicine, the School of Business, the School of Divinity, and the School of Professional Studies. It seeks to honor the ideals of liberal learning, which entail commitment to transmission of cultural heritages; teaching the modes of learning in the basic disciplines of human knowledge; developing critical appreciation of moral, aesthetic and religious values; advancing the frontiers of knowledge through in-depth study and research; and applying and utilizing knowledge in the service of humanity.

Wake Forest has been dedicated to the liberal arts for over a century and a half; this means education in the fundamental fields of human knowledge and achievement, as distinguished from education that is technical or narrowly vocational. It seeks to encourage habits of mind that ask "why," that evaluate evidence, that are open to new ideas, that attempt to understand and appreciate the perspectives of others, that accept complexity and grapple with it, that admit error, and that pursue truth. Wake Forest College has by far the largest student body in the University, and its function is central to the University's larger life. The College and the Graduate School are most singularly focused on learning for its own sake; they therefore serve as exemplars of specific academic values in the life of the University.

Beginning as early as 1894, Wake Forest accepted an obligation to provide professional training in a number of fields, as a complement to its primary mission of liberal arts education. This responsibility is fulfilled in the conviction that the humane values embodied in the liberal arts are also centrally relevant to the professions. Professional education at Wake Forest is characterized by a commitment to ethical and other professional ideals that transcend technical skills. Like the Graduate School, the professional schools are dedicated to the advancement of learning in their fields. In addition, they are specifically committed to the application of knowledge to solving concrete problems of human beings. They are strengthened by values and goals which they share with the College and Graduate School, and the professional schools enhance the work of these schools and the University as a whole by serving as models of service to humanity.

Wake Forest was founded by private initiative, and ultimate decision-making authority lies in a privately appointed Board of Trustees rather than in a public body. Funded to a large extent from private sources of support, it is determined to chart its own course in the pursuit of its goals. As a co-educational institution it seeks to "educate together" persons of both sexes and from a wide range of backgrounds--racial, ethnic, religious, geographical, socio-economic and cultural. Its residential features are conducive to learning and to the pursuit of a wide range of co-curricular activities. It has made a conscious choice to remain small in overall size; it takes pride in being able to function as a community rather than a conglomerate. Its location in the Piedmont area of North Carolina engenders an ethos that is distinctively Southern, and more specifically North Carolinian. As it seeks further to broaden its constituency and to receive national recognition, it is also finding ways to maintain the ethos associated with its regional roots.

Wake Forest is proud of its Baptist and Christian heritage. For more than a century and a half, it has provided the University an indispensable basis for its mission and purpose, enabling Wake Forest to educate thousands of ministers and lay people for enlightened leadership in their churches and communities. Far from being exclusive and parochial, this religious tradition gives the University roots that ensure its lasting identity and branches that provide a supportive environment for a wide variety of faiths. The Baptist insistence on both the separation of church and state and local autonomy has helped to protect the University from interference and domination by outside interests, whether these be commercial, governmental, or ecclesiastical. The Baptist stress upon an uncoerced conscience in matters of religious belief has been translated into a concern for academic freedom. The Baptist emphasis upon revealed truth enables a strong religious critique of human reason, even as the claims of revelation are put under the scrutiny of reason. The character of intellectual life at Wake Forest encourages open and frank dialogue and provides assurance that the University will be ecumenical and not provincial in scope, and that it must encompass perspectives other than the Christian. Wake Forest thus seeks to maintain and invigorate what is noblest in its religious heritage.

History and Development

Since 1834, Wake Forest has been an institution dedicated to providing a quality education to young people interested in using their knowledge and talents to better the world around them. Characterized by exceptional teaching, outstanding research and scholarship, and meaningful connection with one another, a Wake Forest education is designed to help

develop leaders of character intent on working and living in the spirit of Pro Humanitate (for humanity).

The brief history of Wake Forest is useful in understanding the University as it is today and appreciating the process through which it developed. For more information and a detailed timeline illuminating Wake Forest's history, please visit WFU Timeline (https://zsr.wfu.edu/special/collections/archives/wfu-timeline/#event-college-building-construction).

Chronological History of Wake Forest University

Year	Event
1834	Founded in the town of Wake Forest, North Carolina, as Wake Forest Manual Labor Institute by the Baptist State Convention of North Carolina. **Samuel Wait, president**
1838	Named Wake Forest College
1845	**William Hooper, president**
1849	**John Brown White, president**
1854	**Washington Manly Wingate, president**
1879	**Thomas Henderson Pritchard, president**
1884	**Charles Elisha Taylor, president**
1894	School of Law established
1902	Two-year School of Medicine established
1905	**William Louis Poteat, president**
1921	First summer session
1927	**Francis Pendleton Gaines, president**
1930	**Thurman D. Kitchin, president**
1941	Relocation of the School of Medicine to Winston-Salem and eventual change of name to Bowman Gray School of Medicine and association with the North Carolina Baptist Hospital
1942	Women admitted as undergraduate students
1950	**Harold Wayland Tribble, president**
1953	Wake Forest becomes a founding member of the Atlantic Coast Conference
1956	Move to Winston-Salem, 100 miles west, in response to an endowment from the Z. Smith Reynolds Foundation. No American college has picked up roots as deep and moved them so far.
1961	Graduate School of Arts and Sciences established
1962	First major private university in the South to integrate with the enrollment of Edward Reynolds
1967	**James Ralph Scales, president**
1967	Change of name to Wake Forest University
1969	Charles H. Babcock Graduate School of Management established
1974	Purchased Casa Artom in Venice to serve as an academic international house for students
1977	Purchased Worrell House in London to serve as an academic international house for students
1983	**Thomas K. Hearn Jr., president**
1984	Sesquicentennial anniversary
1986	Established governing independence from the Baptist State Convention of North Carolina
1994	Carnegie Foundation recognizes Wake Forest as a Doctoral II institution, an upgrade that qualifies the University for consideration as a National University according to U.S. News & World Report rankings
1995	School of Business and Accountancy is renamed the Wayne Calloway School of Business and Accountancy
1996	Wake Forest becomes the first college in the history of the U.S. News rankings to advance from classification as a Regional University to a Top-30 National University. It remains the only school to make this jump.
1997	Change of name to Wake Forest University School of Medicine
1998	Purchased Flow House in Vienna to serve as an academic international house for students
1999	Divinity School founded
2005	**Nathan O. Hatch, president**
2008	Wake Forest announces it will become the first Top-30 National University to no longer require admission applicants to submit standardized test scores. This is a distinction we still hold.
2009	The Wayne Calloway School of Business and Accountancy and the Charles H. Babcock Graduate School of Management officially merged under the name Wake Forest University Schools of Business (now named Wake Forest University School of Business)
2010	Wake Forest begins a 10-year, $625 million construction effort that enhances academic, residential and athletic facilities.
2012	Opening of Wake Forest University Charlotte Center in uptown Charlotte, N.C.

2013	Farrell Hall opens to house the Wake Forest University School of Business; the first of 10 presidential endowed chairs was created to recognize faculty who represent the teacher-scholar ideal.
2014	Thrive, a comprehensive wellbeing initiative, was launched.
2015	Summer Immersion Program opens for high school students.
2016	The School of Medicine moves its medical education programs to Innovation Quarter in downtown Winston-Salem.
2017	Opening of Wake Downtown, home to new biomedical sciences and engineering programs; opening of the Wake Washington Center at One Dupont Circle, Washington, D.C.; start of a study-abroad program for first-year students in Copenhagen; Wake Forest receives $70 million for scholarships from the late Porter Byrum (JD '42), the largest gift in the University's history; a new residence hall honoring Maya Angelou (LHD '77) is dedicated; Program for Leadership and Character launched.
2018	Reynolda Cabinet expands to include the chief diversity officer; a three-year project to transform the 1950s Reynolds Gym into a health and wellbeing center is complete.
2019	The President's Commission on Race, Equity and Community is formed to illuminate the University's history and guide action moving forward; the University ranks 4th among U.S. doctoral colleges and universities in percentage of students studying abroad.
2020	President Nathan Hatch, on behalf of the University, apologizes for the University's role in the institution of slavery; Wake Will Lead campaign exceeds its $1 billion goal, having created more than 50 endowed professorships, funded renovations and new buildings, provided scholarship dollars to 1 in 5 undergraduates, lowered student debt by 30% and added nearly $400 million to the endowment; a health system integration arrangement is entered into with Charlotte-based Atrium Health, Inc. and plans are announced to add a second Medical School campus in Charlotte.
2021	School for Professional Studies opens in Charlotte; **Susan R. Wente takes office as president on July 1.**
2022	Atrium Health joins with Advocate Aurora Health, a leading healthcare organization in Chicago and Milwaukee, to create a new entity called Advocate Health, headquartered in Charlotte. The role of Wake Forest Baptist Medical Center and Wake Forest University School of Medicine as the academic core of Atrium Health will be expanded to serve Advocate Health.

Accreditation

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

The College of Arts and Sciences has a number of program-level accreditations, including the following.

- The Department of Chemistry's BS programs are approved by the American Chemical Society (ACS). Last approved January 2024.
- The School Counseling Program and the Clinical Mental Health Counseling Program are accredited by CACREP (Council for Accreditation of Counseling and Related Educational Programs). Additionally, the School Counseling Program is accredited by the North Carolina Department of Public Instruction (NCDPI). Last approved July 2018.
- The Department of Education's initial teacher licensure program is fully accredited by the Association for Advancing Quality in Educator Preparation (AAQEP). Last approved August 2024.
- Teacher licensure programs in the Department of Education are approved by the North Carolina Department of Public Instruction (NCDPI). Last approved August 2024.
- The Department of Engineering's BS Engineering degree is ABET Accredited by the Engineering Accreditation Commission (EAC).

The School of Business is accredited by the Association to Advance Collegiate Schools of Business (AACSB International). Last approved May 2022.

The School of Divinity is accredited by the Commission on Accrediting of the Association of Theological Schools in the United States and Canada (ATS). Last approved June 2020.

The Graduate School has a number of program-level accreditations, including the following.

- The Genetic Counseling Program is accredited by the Accreditation Council for Genetic Counseling. Last approved December 2024.

- The Medical Physics programs are accredited through the Commission on Accreditation of Medical Physics Education Programs (CAMPEP).
- The School Counseling Program and the Clinical Mental Health Program are accredited by CACREP (Council on Accreditation of Counseling and Related Programs). Additionally, the School Counseling Program at Wake Forest University is accredited by the North Carolina Department of Public Instruction (NCDPI). Last approved July 2018.

The School of Law is accredited by the American Bar Association (ABA). The School of Law is a member of the Association of American Law Schools, and is listed as an approved school by the Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association and by the Board of Law Examiners and the Council of the North Carolina State Bar. Last approved April 2016.

The School of Medicine is a member of the Association of American Medical Colleges and has a number of program-level accreditation, including the following.

- The Doctorate of Medicine Program is accredited by the Liaison Committee on Medical Education (LCME), the joint accrediting body of the Association of American Medical Colleges and the American Medical Association. Last approved July 2024.
- The Nurse Anesthesia Program (NAP) is accredited by the Council on Accreditation for Nurse Anesthesia Educational Programs (COA). Last approved October 2025.
- The Physician Assistant program is accredited by the Accreditation Review Commission on Education for the Physician Assistant Inc. (ARC-PA). Last approved September 2022.

Internship/Residency

The American Dental Association, Commission on Dental Accreditation accredits Post-Doctoral-Advanced dental education programs (advanced education in general dentistry and general practice residency).

The School of Professional Studies Curriculum and Instruction and Educational Leadership programs are approved by the North Carolina Department of Public Instruction (NCDPI). The Health Informatics and Health Administration programs are Healthcare Information and Management Systems Society (HIMSS) approved education partners.

Wake Forest University is a member of many major institutional organizations and associations at the national, regional and statewide levels, including the following: The American Council on Education, the Association of American Colleges, the National Association of Independent Colleges and Universities, the Council of Graduate Schools in the United States, the Commission on Colleges of the Southern Association of Colleges and Schools, Oak Ridge Associated Universities, Southern Universities Conference, the North Carolina Conference of Graduate Schools, the North Carolina Association of Colleges and Universities, the North Carolina Department of Public Instruction and North Carolina Independent Colleges and Universities. In addition, many offices of the University are members of associations which focus on particular aspects of university administration.

Wake Forest has chapters of the principal national social fraternities and sororities, professional fraternities and honor societies, including Phi Beta Kappa and Sigma Xi. There is an active chapter of the American Association of University Professors on campus.

Degrees and Certificates Offered

Accountancy, Business, and Management

Code	Title	Hours
	Accountancy	BS
	Accounting Analytics	MSA
	Business Analytics	MSBA
	Business and Enterprise Management	BS
	Business Administration	MBA
	Decision Analytics	BS
	Finance	BS
	Management	MSM
	Dual Degree	JD/MBA, PhD*/ MBA

Biomedical Sciences

Code	Title	Hours
	Addiction Research and Clinical Health	MS
	Biochemistry and Molecular Biology	BS, PhD
	Biomedical Engineering	MS, PhD
	Biomedical Informatics	MS
	Biomedical Research	MS
	Biomedical Science	MS
	Cancer Biology	PhD
	Clinical Research Management	MS-online, MS-online/ BS, MS-online/BA
	Clinical and Translational Investigation	Certificate
	Comparative Medicine	MS
	Genetic Counseling	MS
	Health Disparities in Neuroscience-related Disorders	MS
	Healthcare Leadership	MHL-online
	Integrative Physiology and Pharmacology	PhD
	Learning Health System Science	Certificate
	Medical Physics	MS, PhD, Certificate
	Microbiology and Immunology	PhD
	Molecular Genetics and Genomics	PhD
	Molecular Medicine and Translational Science	MS, PhD, PhD/MMS
	Neuroscience	BA, BS, MS, MS/ BS, MS/ BA, PhD
	Translational Biotechnology	MS, Certificate
	Translational & Health System Science	MS, MS/ MD

Dual Degree	PhD*/MD, PhD*/MBA

Counseling

Code	Title	Hours
Addiction Counseling		Certificate
Counseling		MA
Counseling		MA-online
Human Services		MAHS-online
Dual Degree		MDiv/MA

Computer and Information Sciences

Code	Title	Hours
Computer Science		BA, BS, BS/MS, MS
Data Science		Certificate

Education

Code	Title	Hours
Education		BA, MAEd
Elementary Education		BA
Curriculum, Instruction, and Assessment		Certificate
Dual Degree		MDiv/MAEd

Engineering

Code	Title	Hours
Engineering		BS

Foreign Languages

Code	Title	Hours
Chinese Language and Culture		BA
Japanese Language and Culture		BA
French Studies		BA
German		BA
German Studies		BA
Greek		BA
Latin		BA
Russian		BA
Spanish		BA

Humanities

Code	Title	Hours
Classical Languages		BA
Classical Studies		BA
English		BA, MA
History		BA
Philosophy		BA
Religious Studies		BA

Interdisciplinary Programs

Code	Title	Hours
African American and African Studies		BA
Bioethics		Certificate, MA
Biomedical Research Ethics		Certificate
Clinical Bioethics		Certificate
Combined Bioethics		BS/BA and MA, MDiv/MA, JD/MA, MD/MA
Environmental Science		BA
Environmental and Sustainability Studies		BA
Intercultural Services in Healthcare		MA, Certificate
Interdisciplinary Major		BA, BS
Interpreting Studies		Certificate
Medieval & Early Modern Studies		Certificate
Sustainability		MA, Certificate
Women's, Gender and Sexuality Studies		BA

Law

Code	Title	Hours
Law		JD, LLM, MSL-online, SJD
Dual Degree		JD/MA in Bioethics, JD/MA in Religious Studies, JD/MA in Sustainability, JD/MBA, JD/MDiv
Business Law & Compliance		Certificate
Health Law & Policy		Certificate
Human Resources		Certificate
Workplace Legal Fundamentals		Certificate

Liberal Studies

Code	Title	Hours
Liberal Arts Studies		MA

Life and Physical Sciences

Code	Title	Hours
Biology		BA, BS, MS, PhD
Chemistry		BA, BS, MS, PhD
Health and Exercise Science		BS, MS

Physics	BA, BS, MS, PhD
Biophysics	BS
Structural and Computational Biophysics	Certificate

Mathematics and Statistics

Code	Title	Hours
Applied Mathematics		BS
Applied Statistics		BS
Decision Analytics		BS
Mathematics		BA, BS, MS
Statistics		BA, BS, MS

Medicine

Code	Title	Hours
Medicine		MD, MD/PhD*, MD/MA in Bioethics, MD/MS in Translational and Health System Science
Nurse Anesthesia		DNP
Nursing Practice		DNP
Physician Assistant		MMS, MMS/PhD in Molecular Medicine and Translational Science, DMSc

Professional Studies

Code	Title	Hours
Artificial Intelligence Strategy & Innovation		MAISI
Communications		MCOM
Cybersecurity Leadership		MCL
Digital Marketing and Artificial Intelligence		MDM
Digital Marketing and Analytics		Certificate
Educational Leadership		MEL
Engineering Management		MEM
Enterprise Risk Management		MERM
Financial Technology and Analytics		MFTA
Health Administration		MHA
Health Informatics		MHI
International Affairs		MIAF
Project Management		MPM, Certificate
Public Administration		MPA
Public Policy and Data Analytics		MPPDA

Social and Behavioral Sciences

Code	Title	Hours
Anthropology		BA
Communication		BA, MA
Critical and Creative Media		BA
Economics		BA, BS
Politics and International Affairs		BA
Psychology		BA, MS
Sociology		BA

Theology

Code	Title	Hours
Ministry		DMin
Divinity		MDiv
Religion		MA
Dual Degree		MDiv/JD, MDiv/MAEd, MDiv/MA in Bioethics, MDiv/MA in Counseling, MDiv/MA in Sustainability

Visual and Performing Arts

Code	Title	Hours
Art History		BA
Studio Art		BA
Music		BA
Theatre		BA
Content Creation and Strategic Storytelling		MA
Documentary Film		MA, MFA

* Dual degrees that include the PhD are available in all disciplines in which the PhD is offered.

Buildings and Grounds

The *Reynolda Campus* of Wake Forest, which opened in the summer of 1956 upon the institution's move from its original home near Raleigh, is situated on approximately 340 acres. Its physical facilities consist of more than 80 buildings, most of which are of modified Georgian architecture and constructed of Old Virginia brick trimmed in granite and limestone.

The main Quadrangle, *Hearn Plaza*, is named for Wake Forest's 12th president, Thomas K. Hearn Jr., who served from 1983 to 2005. *Manchester Plaza*, named for benefactors and Wake Forest parents Doug Manchester (P '03, P '06) and Elizabeth Manchester (P '03, P '06), is

located on south campus. The *Reynolda Gardens complex*, consisting of about 128 acres and including *Reynolda Woods*, *Reynolda Village, Reynolda Gardens*, and *Reynolda House and Museum of American Art*, is adjacent to the campus. The *Graylyn International Conference Center* is nearby.

Wait Chapel, named in memory of Samuel Wait, the first president of the College, seats 2,227. The *Wait Chapel* tower contains the Janet Jeffrey Carlile Harris Carillon, an instrument of 48 bells.

Divinity and Religious Studies Building houses the Department for the Study of Religions and the School of Divinity.

Reynolda Hall, across the upper plaza from Wait Chapel, houses most of the administration, including offices of the President, the Provost, the Dean of the College, the Center for Global Programs and Studies, the Office of Personal and Career Development, and the University Chaplain. It is also home of a large dining facility for the Reynolda Campus.

Benson University Center, named for the father of benefactor Clifton Linwood Benson Jr. ('64), houses the Student Union and is the central hub for student activities, services, and events. The bottom floor of Benson is the home to Pugh Auditorium movie theater and several food venues, and the LGBTQ+ Center is located on the second floor.

Z. Smith Reynolds Library and its *Edwin Graves Wilson Wing*, named in honor of the Class of 1943 graduate who became a distinguished English professor and administrator at his alma mater, house the main collection of books and documents on the Reynolda Campus. Along with eight floors of open stacks, it has reading and reference rooms for study.

Carswell Hall, named in honor of alumnus and benefactor Guy T. Carswell (1922, LLD '62), houses the Departments of Communication, Counseling, and East Asian Languages and Cultures and the Annenberg Forum, a large multimedia lecture space.

Winston Hall houses the Department of Biology and *Salem Hall* is home to the Department of Chemistry. Both buildings have laboratories as well as classrooms and special research facilities. The *Olin Physical Laboratory* houses the Department of Physics.

Harold W. Tribble Hall, named for Wake Forest's 10th president, accommodates the Departments of English, History, Classics, and Women's, Gender and Sexuality Studies. It also features seminar rooms and a multimedia lecture space, DeTamble Auditorium.

Alumni Hall houses the Departments of Education, Computer Science and Philosophy and the Entrepreneurship program following a renovation completed in the summer of 2026. The University Police and Parking and Transportation Departments are also located in the building, the first major renovation project of a multi-year initiative to increase classroom space by 35% and dining and student gathering space by 50% campus-wide.

The Timothy S.Y. Lam Museum of Anthropology, named for alumnus, parent, and benefactor Timothy See Yiu Lam ('60, P '93, P '98) houses North Carolina's only museum dedicated to the study of world cultures.

The Department of Anthropology is located next to the Lam Museum in *Piccolo Hall*, a repurposed residence hall named in honor of Brian Piccolo ('65, P '87, P '89), a distinguished alumnus and student-athlete.

Calloway Center for Mathematics was named in honor of former University Trustee Wayne Calloway ('59, LLD '88, P '95). The building houses the Departments of Mathematics and Statistical Sciences in *Manchester Hall* and the Departments of Politics and International Affairs, Economics, and Sociology in *Kirby Hall*.

Farrell Hall, named for Wake Forest parents and benefactors Michael (LLD '13, P '10) and Mary (P '10) Farrell, broke ground in April 2011 and is home to the School of Business. It hosted its first classes in July 2013 and was formally dedicated in November 2013.

William B. Greene Jr. Hall, named for alumnus and benefactor Bill Greene ('59), houses the Departments of Psychology, German and Russian, French Studies, and Spanish.

James R. Scales Fine Arts Center, named for James Ralph Scales, Wake Forest's 11th president, supports the functions of studio art, theatre, musical and dance performances, and instruction in art history, drama and music. Off its main lobby is the *Charlotte and Philip Hanes Gallery*, a facility for special exhibitions. The art wing includes spacious studios for drawing, painting, sculpture, and printmaking, along with a smaller gallery and classrooms. Adjacent to the art wing is a dance studio for performances and rehearsals. The theatre wing has design and production areas and two technically complete theatres, the larger of traditional design and the smaller for ring productions. The music wing contains classrooms, practice rooms for individuals and groups, the offices of the Department of Music and Brendle Recital Hall for concerts and lectures.

Worrell Professional Center, named for alumnus and benefactor T. Eugene Worrell ('40, LHD '79), houses the School of Law. Additions to Worrell in 2016 provided a new home for instruction in the Department of Health and Exercise Science.

The *ROTC Building* is home to the Wake Forest Reserve Officers Training Corps program and military science studies.

Wake Forest Wellbeing Center, comprised of the *Sutton Center* and the *Historic W.N. Reynolds Gymnasium*, was reimagined and officially dedicated in 2018. The *Sutton Center*, named for alumnus and benefactor Ben Sutton ('80, JD '83, P '14, P '16, P '19), provides a large venue for wellbeing, social and academic gatherings; and *Historic W.N. Reynolds Gymnasium*, named for a prominent member of the family that helped bring the campus to Winston-Salem, has courts for indoor sports, a swimming pool, and Deacon Health.

Wake Forest is home to outstanding athletics facilities designed to enhance the health, wellbeing, and competitive excellence of all Demon Deacon teams.

Adjacent to the *Wellbeing Center* are *Kentner Stadium, Manchester Athletic Center,* and the *Kenneth D. Miller Center*, all of which are named for University benefactors. *Kentner* is home to the Demon Deacon field hockey team and the *Miller Center* house athletics administration.

The *McCreary Football Complex*, named for alumnus and benefactor Bob McCreary ('61), opened in 2023. It includes a locker room for up to 130 student-athletes; a player lounge with a nutrition station and other amenities; football training and treatment space; and meeting and office space.

The *Sutton Sports Performance Center,* also named for Ben Sutton, and the *Shah Basketball Performance Center*, honoring benefactor and alumnus Mit Shah ('91, P '25), are dedicated to the strength, conditioning, sport-specific practice, and nutrition of student-athletes.

Spry Stadium, home of Wake Forest men's and women's soccer, is situated across from North Campus housing. Named for the father of benefactor William D. Spry, Jr. (P '97), the facility is one of the best in the country.

McCreary Field House, also named for Bob McCreary, opened in 2016, providing indoor practice facilities and weightlifting for all of Wake Forest's intercollegiate sports teams.

The *Arnold Palmer Golf Complex* is named in honor of benefactor and longtime Trustee Arnold Palmer ('51, LLD '70), the beloved athlete and philanthropist who received the University's Distinguished Alumni Award at age 32 in 1962. The complex includes the *Dianne Dailey Golf Learning Center*, which opened in 2010 and is named for the coach who led the women's golf program for 30 years, and the *Haddock Golf Center,* completed in 2016 and named for Jesse Haddock ('52, P '68), who coached the Deacons to three NCAA championships in his 32 years of service.

The three largest athletics venues are located 1.3 miles off the Reynolda Campus. *Allegacy Federal Credit Union Stadium* is the home of the football team; basketball teams play in *Lawrence Joel Veterans Memorial Coliseum*, named after a decorated Vietnam War veteran from Winston-Salem; and baseball's home is *David F. Couch Ballpark*, named for a 1984 graduate and benefactor.

Nearby is the *University Corporate Center*, which temporarily houses several administrative departments and serves as home to the new childcare center, established and opening in 2024.

Porter B. Byrum Welcome Center, named for alumnus and benefactor Porter B. Byrum (JD '42), is at the entrance to Wake Forest nearest Reynolda Road. The building allows prospective students and their families an opportunity to learn more about the University and to meet with admissions staff.

The Wake Forest campus has a wide variety of housing options available to students in residence halls named for alumni, faculty, benefactors, and Wake Forest presidents: *Babcock Hall, Bostwick Hall, Collins Hall, Davis Hall, Efird Hall, Huffman Hall, Johnson Hall, Kitchin Hall, Luter Hall, Martin Hall, North Campus Apartments, Polo Hall, Poteat Hall, Student Apartments, Hopkins Hall* and *Taylor Hall. Dogwood and Magnolia Residence Halls* opened in August 2013 and are coeducational by floor, wing, or apartment. In January 2014, the *North Dining* facilities opened adjacent to the new residence halls providing alternative dining options to the north side of campus. In January 2017, *Angelou Residence Hall*, named in honor of the distinguished Wake Forest faculty member and internationally acclaimed poet, actor, producer and director opened. It is also home to the Office of Residence Life and Housing and the Deacon OneCard Office.

In 2025, the University re-dedicated the facility formerly known as South Hall and named it Hopkins Hall in honor of the trailblazing, transformative husband-wife team of Dr. Larry Hopkins ('72, MD '77) and Beth Hopkins ('73).

In January 2017, converted tobacco warehouses became the home of new degree programs in biomedical sciences and engineering. Known as *Wake Downtown*, this academic extension is located a 13-minute shuttle ride from the Reynolda Campus. That same year, the University opened *Wake Washington Center*, a home of academic operations on DuPont Circle in Washington, D.C.

Wake Forest also owns academic-residential houses in three foreign countries. The University purchased *Casa Artom*, located on the Grand Canal in Venice and named for beloved medical school professor Dr. Camillo Artom, in 1974. Three years later, it acquired a London facility and named it *Worrell House* in honor of benefactor T. Eugene Worrell ('40, LHD '79) and his wife, Anne Worrell. And in 1998, *Flow House*, located in Vienna and named in honor of alumnus, benefactor, and Life Trustee Victor I. Flow ('52, P '83) and his wife, Roddy Flow (P '83), became part of the Wake Forest family.

Enrollment

All Schools—Fall 2025

School	Men	Women	Total
Undergraduate Schools	2510	3085	5595
The Graduate School (Reynolda Campus)	194	458	652
The Graduate School (Bowman Gray Campus)	161	263	424
The School of Law	307	354	661
Divinity School	35	49	84
School of Business (Graduate)	391	237	628
The Wake Forest School of Medicine (Includes Physician Assistant, Nurse Anesthesia and Doctor of Nursing Practice)	64	218	282
University Totals	**4201**	5432	9633

Geographic Distribution—Undergraduates

By State (2025)

State	Number
Alabama	44
Alaska	1
Arizona	20
Arkansas	7
Armed Forces - Europe	2
Armed Forces - The Pacific	0
California	229
Colorado	57
Connecticut	245
Delaware	27
District of Columbia	35
Florida	329
Georgia	196
Hawaii	3
Idaho	7
Illinois	218
Indiana	19
Iowa	7
Kansas	14
Kentucky	49
Louisiana	28
Maine	13
Maryland	255
Massashusetts	333
Michigan	18
Minnesota	41

Mississippi	3
Missouri	42
Montana	5
Nebraska	6
Nevada	11
New Hampshire	18
New Jersey	438
New Mexico	1
New York	561
North Carolina	886
North Dakota	0
Ohio	87
Oklahoma	9
Oregon	15
Pennsylvania	230
Rhode Island	18
South Carolina	99
South Dakota	2
Tennessee	129
Texas	216
Utah	6
Vermont	11
Virginia	262
Washington	40
West Virginia	11
Wisconsin	16
Wyoming	3

Countries Represented (Fall 2025)

- Australia
- Bangladesh
- Bolivia
- Brazil
- Canada
- China
- France
- Georgia
- Germany
- Ghana
- Guatemala
- Honduras
- India
- Italy
- Kazakhstan
- Liberia
- Mexico
- Netherlands
- New Zealand
- Nicaragua
- Norway
- Panama
- Peru
- Poland
- Portugal
- Russia
- Serbia
- Singapore
- South Africa
- South Korea
- Spain
- Sweden
- Switzerland
- Taiwan
- Thailand
- Turkey
- United Kingdom
- Vietnam

International Students: 223

University Policies

- Family Educational Rights and Privacy Act
- Intellectual Property and Copyright Policies
- Non-Discrimination Statement
- Policy on Sexual Harassment
- State Authorization Reciprocity Agreements (SARA)
- Student Code of Conduct
- Summary of Computing Rights and Responsibilities

Wake Forest University endorses, as a basic principle of University life, the concept of responsible student freedom, which carries with it the recognition by each student of the rights and obligations of other members of the University community.

The University encourages students to conduct themselves as mature men and women and invites them to participate in the formation of rules and to assume major responsibility in judicial decisions. At the same time, all participants in University life must remember that, by the charter of the University, the board of trustees is ultimately responsible for the University and for its operation. Wake Forest also expects its students to abide by local, state, and federal laws, as well as by generally accepted moral standards. Although the University's role is not to duplicate civil law enforcement or judicial action, it may exercise authority for reasons appropriate to its function as an educational institution.

In keeping with its historic concern for students individually and corporately, Wake Forest has a legitimate interest in their welfare in and out of class, on campus and off. The University is concerned with student actions that are inconsistent with student obligations to the educational community. When, in the opinion of the University, the conduct of a student at any place is reprehensible or detrimental to the best interests of that student, his or her fellow students, or the University, appropriate disciplinary action will be taken.

Wake Forest believes in individual freedom, not as a right, but as a responsibility: freedom to be and to become. Attendance at Wake Forest is a privilege, not a right. The University's traditions and principles, accepted by each student in his or her voluntary registration, evolve from the core of this individual concept of freedom and responsibility. Therefore, it is assumed that the student who elects to come to Wake

Forest does so with the intent of being, in fact and in spirit, a cooperating member of this community.

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act (FERPA) affords eligible students certain rights with respect to their education records. (An "eligible student" under FERPA is a student who is 18 years of age or older or who attends a postsecondary institution at any age.) These rights include:

1. The right to inspect and review the student's education records within 45 days after the day that Wake Forest University (WFU) receives a request for access. A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) the student wishes to inspect. The school official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the school official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes is inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA. A student who wishes to ask WFU to amend a record should write the school official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed. If WFU decides not to amend the record as requested, WFU will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to provide written consent before WFU discloses *personally identifiable information* (PII) from the student's education records, except to the extent that FERPA authorizes disclosure without consent. WFU discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by Wake Forest University in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee. A school official also may include a volunteer or contractor outside of WFU who performs an institutional service of function for which the school would otherwise use its own employees and who is under the direct control of the school with respect to the use and maintenance of PII from education records, such as an attorney, auditor, or collection agent or a student volunteering to assist another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for WFU.
4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by WFU to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:
   Student Privacy Policy Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202

Directory Information

The following information regarding students is considered directory information:

1. Name
2. Address
3. Telephone number
4. Electronic mail addresses
5. Date and place of birth
6. Major field of study
7. Enrollment status (undergraduate or graduate, full or part-time)
8. Class level
9. Participation in officially recognized activities and sports
10. Weight and height of members of athletic teams
11. Dates of attendance
12. Degrees and awards received
13. The most recent previous educational agency or institution attended by the student, and
14. Other similar information such as a photograph.

Directory information may be disclosed by Wake Forest University for any purpose in its discretion without the consent of the student in accordance with FERPA. Students have the right to refuse to permit the release of directory information. When a student "opts out" of disclosure of directory information, they will not be included in university public announcements, including awards or deans' lists, or listing in graduation, hooding, or Commencement publications.

Any student wishing to opt out of disclosing directory information must change their privacy settings in the student information system, Workday Student, by using the Manage My Privacy Settings task. If you cannot access these settings in Workday Student, you may file written notification to this effect with WFU at the Office of the University Registrar, 110 Reynolda Hall. If privacy settings are not changed or written notification is not filed, Wake Forest University assumes that the student does not object to the release of directory information.

FERPA permits the disclosure of PII from students' education records, without consent of the student, if the disclosure meets certain conditions found in the FERPA regulations. Except for disclosures to school officials, disclosures related to some judicial orders or lawfully issued subpoenas, disclosures of directory information, and disclosures to the student of FERPA regulations requires the institution to record the disclosure. Eligible students have a right to inspect and review the record of disclosures.

A postsecondary institution may disclose PII from the education records without obtaining prior written consent of the student –

- To other school officials, including teachers, within WFU whom the school has determined to have *legitimate educational interests*. This includes contractors, consultants, volunteers, or other parties to whom the school has outsourced institutional services or functions, provided that the conditions listed in §99.31(a)(1)(i)(B)(1) – (a)(1)(i)(B)(2) are met. (§99.31(a)(1))
- To officials of another school where the student seeks or intends to enroll, or where the student is already enrolled if the disclosure is for purposes related to the student's enrollment or transfer, subject to the requirements of §99.34. (§99.31(a)(2))
- To authorized representatives of the U. S. Comptroller General, the U. S. Attorney General, the U.S. Secretary of Education, or State and local educational authorities, such as a State postsecondary authority that is responsible for supervising the university's State-supported education programs. Disclosures under this provision may be made, subject to the requirements of §99.35, in connection with an audit or evaluation of Federal- or State-supported education programs, or for the enforcement of or compliance with Federal legal requirements that relate to those programs. These entities may make further disclosures of PII to outside entities that are designated by them as their authorized representatives to conduct any audit, evaluation, or enforcement or compliance activity on their behalf. (§§99.31(a)(3) and 99.35)
- In connection with financial aid for which the student has applied or which the student has received, if the information is necessary to determine eligibility for the aid, determine the amount of the aid, determine the conditions of the aid, or enforce the terms and conditions of the aid. (§99.31(a)(4))
- To organizations conducting studies for, or on behalf of, the school, in order to: (a) develop, validate, or administer predictive tests; (b) administer student aid programs; or (c) improve instruction. (§99.31(a)(6))
- To accrediting organizations to carry out their accrediting functions. ((§99.31(a)(7))
- To parents of an eligible student if the student is a dependent for IRS tax purposes. (§99.31(a)(8))
- To comply with a judicial order or lawfully issued subpoena. (§99.31(a)(9))
- To appropriate officials in connection with a health or safety emergency, subject to §99.36. (§99.31(a)(10))
- Information the school has designated as "directory information" under §99.37. (§99.31(a)(11))
- To a victim of an alleged perpetrator of a crime of violence or a non-forcible sex offense, subject to the requirements of §99.39. The disclosure may only include the final results of the disciplinary proceeding with respect to that alleged crime or offense, regardless of the finding. (§99.31(a)(13))
- To the general public, the final results of a disciplinary proceeding, subject to the requirements of §99.39, if the school determines the student is an alleged perpetrator of a crime of violence or non-forcible sex offense and the student has committed a violation of the school's rules or policies with respect to the allegation made against him or her. (§99.31(a)(14))
- To parents of a student regarding the student's violation of any Federal, State, or local law, or of any rule or policy of the school, governing the use or possession of alcohol or a controlled substance if the school determines the student committed a disciplinary violation and the student is under the age of 21. (§99.31(a)(15)).

Intellectual Property and Copyright Policies

Intellectual Property Policy

Review the policy here (https://policy.wfu.edu/reynolda-campus-intellectual-property-policy/).

Copyright Policy

Review the policy here (https://policy.wfu.edu/copyright-policy/).

Non-Discrimination Statement

Wake Forest University is committed to diversity, inclusion and the spirit of its motto, *Pro Humanitate*. In adherence with applicable laws and as provided by University policies, the University prohibits discrimination in its employment practices and its educational programs and activities on the basis of race, color, religion, national origin, sex, age, sexual orientation, gender identity and expression, genetic information, disability and veteran status.

The following person has been designated to handle inquiries regarding the University's non-discrimination policies:

Title IX Coordinator
Section 504/ADA Coordinator
titleixcoordinator@wfu.edu
Reynolda Hall 22 Winston-Salem, NC 27106
336-758-7258

Assistant Vice President Human Resources
AskHR@wfu.edu
2958 Reynolda Road, Winston-Salem, NC 27106
(336)758-4700

Deputy Title IX Coordinators have also been designated and represent various University schools/divisions. Contact information for each Deputy Coordinator can be obtained from the University's Title IX Coordinator.

Inquiries concerning the application of anti-discrimination laws may be referred to the individuals listed above or to the Office for Civil Rights, United States Department of Education. For further information on notice of non-discrimination, visit the Office of Civil Rights website (https://ocrcas.ed.gov/contact-ocr) for the address and phone number of the U. S. Department of Education office that serves your area, or call 1-800-421-3481.

Policy on Sexual Harassment

Wake Forest University expects all members of its community to act in respectful and responsible ways towards each other. Wake Forest University is committed to providing programs, activities and an educational environment free from sex discrimination. This Student Sexual Misconduct Policy sets forth resources available to students, describes prohibited conduct, and establishes procedures for responding to reports of sexual misconduct (including sexual assault, sexual harassment, and other unwelcome sexual behavior), as well as reports of dating violence, domestic violence, and stalking.

As a recipient of Federal funds, Wake Forest is required to comply with Title IX of the Higher Education Amendments of 1972, 20 U.S. C. § 1681

et seq. ("Title IX"), which prohibits discrimination on the basis of sex in education programs or activities. Sexual misconduct, as defined in this Policy, is a form of sex discrimination prohibited by Title IX.

This policy addresses complaints of sexual misconduct where the accused is a student of Wake Forest University. Complaints relating to sexual misconduct by a member of the University faculty or staff may be reported to the University's Title IX Coordinator. Details regarding Wake Forest's policy directed at sexual harassment by employees may be found at https://hr.wfu.edu/oie/.

State Authorization Reciprocity Agreements (SARA)

For the purposes of authorization in states outside of North Carolina, Wake Forest University participates in the State Authorization Reciprocity Agreements (SARA). In accordance with its participation in SARA, its other policies, and its mission and purpose, the University endeavours to resolve any student complaints at the institutional level. In some instances, however, students may also have the ability to make a complaint to the National Council for State Authorization Reciprocity Agreements (NC-SARA). For further information, students may contact the offices of the State Authorization Reciprocity Agreement – North Carolina (https://www2.ncseaa.edu/SARANC/) (SARANC) via the North Carolina State Education Assistance Authority (NCSEAA), North Carolina's portal entity for SARA. Upon reviewing the complaint process (https://www2.ncseaa.edu/SARANC/Complaint.aspx), students may complete the complaint form (https://www2.ncseaa.edu/SARANC/docs/SARA-NC-ComplaintForm.pdf) and submit it either via complaint@saranc.org or to:

SARA North Carolina Director
North Carolina State Education Assistance Authority
PO Box 41349
Raleigh, NC 27629
(855) 727-2162 – toll free
(919) 248-4667 – local
(919) 248-6667 – fax
information@saranc.org
www.saranc.org (http://www.saranc.org/)

Student Code of Conduct

Introduction

All members of the Wake Forest community will strive to live in and to promote an environment which recognizes individuality, fosters collegiality, respects the rights and privileges of others, and demonstrates responsibility for individual and group actions. If Students or Student Organizations fail to meet these expectations, the University, through the processes set forth in this Student Code of Conduct, will determine the nature and extent of violations and require appropriate outcomes.

Wake Forest is a community of people that seek the enlightenment and freedom which comes through diligent study. An even higher goal, however, is to give life to the University motto, Pro Humanitate, as the passion for knowledge is translated into compassionate service. The honesty, trustworthiness, and personal integrity of each Student is integral to the life and purposes of the Wake Forest community. Furthermore, Wake Forest strives toward a society in which good will, respect, and equality prevail. To that end, hatred and bigotry in any form are rejected, and justice, honor, and mutual trust are promoted.

The Student Code of Conduct supports the mission and motto of Wake Forest University and protects the interests of the Wake Forest community through the use of learning-focused accountability processes designed to facilitate the development of responsible global citizens while valuing the individuality of each person and their lived experiences.

Wake Forest may, from time-to-time, make changes to the Student Code of Conduct or other policies and procedures that are referenced in the Student Code of Conduct. When changes are made to the Student Code of Conduct by Wake Forest, students will be notified by email or other forms of communication.

In addition to this Student Code of Conduct, Wake Forest University students are also subject to other non-academic conduct policies, including, but not limited to, the policies addressing sexual harassment, sexual misconduct, and/or retaliation; the Policy on Ethical Use of Computing Resources; the Anti-Hazing Policy; the Undergraduate Alcohol and Other Drug Policy; the Residence Life and Housing Guide to Community Living; graduate or professional school codes or guides; and/or policies specific to the College or School of admission which set forth expectations regarding conduct of Students and Student Organizations. Concerns regarding possible violations of those policies may be referred to the Office of the Dean of the College and the Graduate School of Arts and Sciences, the Office of the Dean of Students, the Student Services Administrator for the respective School(s), and/or the Office of Institutional Equity regarding Student and Student Organization conduct and disciplinary matters for adjudication.

Statement on Student Expression

Wake Forest University is committed to diversity, inclusion, and the spirit of Pro Humanitate, and it strives to provide an environment conducive to understanding, fostering, and nurturing the values of mutual respect, dignity, responsibility, and open communication. Free speech and peaceable assembly are basic requirements of a university as a center for free inquiry and the search for knowledge and insight.

The University is committed to providing all students the right to openly dissent and to speak, write, listen, challenge, protest, and learn. Though the vibrant exchange of ideas may become contentious, such interactions, as part of the University's educational mission, can lead to changed perspectives, advanced knowledge, and informed action.

See the "University Policy on Demonstrations, Chalking, and Posting" in the University's Policy library at https://policy.wfu.edu/demonstrations-chalking-and-posting-policy/ for the full policy and information.

Definitions

"**Business Day**" describes any day of the week, Monday through Friday, excluding University holidays or other official closures.

"**Conduct Officer**" includes any person(s) authorized to manage conduct cases and to administer Resolution processes.

"**Conduct Panel**" or "**Panel**" includes the group of individuals who hear cases of alleged Student or Student Organization misconduct. The composition of the Conduct Panel is determined by the Conduct Officer. A "**Panel Member**" refers to an individual on a Conduct Panel.

"**Dean of Students**" ("DOS") is the person or persons in a School or College with the functional responsibilities for administration of student

conduct processes. This may include, but is not limited to, persons with the title "Dean of Students", "Associate Dean", "Assistant Dean", or a committee charged with responsibility for student conduct.

"**Faculty**" refers to persons who hold an academic appointment, whether tenured, tenure track, or non-tenure track, or full or part-time, or any person acting under their direction and/or supervision.

"**Investigator**" includes any individual(s) authorized to conduct investigations of alleged conduct violations.

"**Judicial Council**" refers to the body established to hear appeals of Honor and Ethics Council hearings and Formal Resolution meetings for undergraduate Students and Student Organizations.

"**Office of the Dean of Students**" refers to the named office and includes any other office authorized by a School or College to administer student conduct processes.

"**Preponderance of the Evidence**" is the standard under which alleged conduct violations will be evaluated, and means the information would lead a reasonable person to conclude it is more likely than not a violation occurred.

"**Student(s)**" includes all persons enrolled in undergraduate, graduate, professional, certification, or any other courses at or offered by the University, either full-time or part-time for which a transcripted record is created. Persons who withdraw after allegedly violating the Student Code of Conduct, who are not officially enrolled for a particular term but who have a continuing relationship with the University are considered "Students". The term "Student" does not apply to University guests or visitors, even if they are temporarily living in University residence halls. The term "Student" does not refer to students enrolled exclusively in degree and certificate programs at the School of Medicine. The term "student" includes an admitted person who has moved into the residence halls, is attending orientation programs, and/or participating in athletic training programs.

"**Student Code of Conduct**" ("SCC") establishes standards of behavior to support the values of the University and uphold the best interests of Students, Student Organizations, and the University community. This SCC applies to conduct occurring on any University Premises or Property, including all study away and study abroad campuses, or any conduct related to a University Program or Activity, regardless of location.

"**Student Organization**" refers to a group of Students formally recognized as an organization by the University or any of its Schools or the College, except for organizations recognized by the School of Medicine.

"**University**" or "**Wake Forest**" refers to Wake Forest University and includes all offices, departments, agencies, schools, colleges, auxiliaries, and affiliates.

"**University Official**" refers to any person(s) employed by or providing services on behalf of the University, including, but not limited to, faculty, staff, resident advisors, and food service staff.

"**University Premises or Property**" includes all land, buildings, facilities, and other property in the possession of, owned, used, managed, leased, or controlled by the University and/or any of its affiliated entities.

"**University Program or Activity**" includes all programs, events, activities, and functions sponsored, funded, endorsed, supported, or conducted by the University.

Jurisdictional Statement.

Wake Forest University's SCC applies to alleged non-academic conduct by a Student or Student Organization taking place on University Premises or Property or in a University Program or Activity that adversely impacts the University community and/or the pursuit of the University's educational objectives. Other University offices may be engaged and consulted as needed regarding investigations and outcome resolutions under this SCC. The Deans and Faculty of the College and Schools are responsible for academic conduct and administration of the Honor Code or Council for their respective College and Schools. The SCC applies throughout a Student's entire enrollment at Wake Forest University, including regular academic terms; during academic breaks, like the summer or winter break; and while Students are on personal, medical, or other approved leave. The SCC also applies to any student on a study abroad or away program, whether operated by the University or another entity. The SCC also applies to non-academic conduct for all visiting, guest, auditing, exchange, and others enrolled in Wake Forest University courses.

The University does not seek or support special treatment for its Students who may be apprehended for violation of civil or criminal law. In some instances, an action violating a University policy may also violate local, state, or federal law. Such violations of law may be pursued in civil or criminal court simultaneous with, and separate from, the resolution of a complaint within the University. A pending legal action usually will not delay University action, nor will the outcome of a civil or criminal case determine the outcome of a University proceeding. Information, reports, and materials related to a criminal or civil court proceeding may be considered in University conduct proceedings.

The SCC will also apply if a Student withdraws from Wake Forest while a disciplinary matter is pending. Any such disciplinary matter will need to be resolved in accordance with the procedures of the SCC then currently in effect when and if such a Student subsequently seeks to re-enroll at the University. The University retains the right to withhold transcripts if a Student attempts to transfer while a conduct matter is pending in accordance with state or federal law. The University also has the right to withhold the degree of a Student who has satisfactorily completed all academic requirements but has a conduct matter pending.

Wake Forest University expects Students to engage appropriately with the Dean of Students and Conduct Officers and considers outcomes as a result of the conduct process to be required components of the Student's education. Accordingly, Conduct Officers have the authority to place registration, transcript, and graduation holds in order to require Students to attend meetings related to the conduct process, enforce outcomes, respond to past due outcomes, or other required student conduct procedures.

Students and Student Organizations may be held responsible for and sanctioned for attempted violations of University policy, even if the Student or Student Organization is prevented from or otherwise does not complete the act of misconduct.

Sometimes Student Organizations co-sponsor events with groups or organizations at other colleges or universities. Wake Forest Students and Student Organizations must adhere to Wake Forest University policies on such occasions, as well as any policies and procedures applicable to such events. Where officials of another college or university notify Wake Forest of incidents giving rise to a possible violation of the SCC, including the the policies addressing sexual harassment, sexual misconduct, and/

or retaliation, the case will be processed through the appropriate Wake Forest conduct processes.

Reports of conduct that may also be a violation of the the policies addressing sexual harassment, sexual misconduct, and/or retaliation will be referred to the Title IX Office.

Prohibited Conduct.

Wake Forest considers the conduct described in the following sections as unacceptable for the University community and in opposition to the University's core values. As used in this SCC, the Prohibited Conduct described below is to be interpreted using ordinary, non-legal meanings. The Conduct Officer will determine the applicability of the SCC.

Any Student or Student Organization found to have engaged in or attempted to engage in the following actions, behaviors, or decisions ("Prohibited Conduct") is subject to the outcomes outlined below.

Abuse or Obstruction of the Conduct Process.

Deliberately or intentionally abusing, misusing, or misleading the procedural aspects of the conduct process. Examples of this behavior include:

- Destroying or concealing information during an investigation of an alleged policy violation;
- Filing a false conduct report;
- Discouraging an individual's participation in, or use of, the student conduct system; or
- Influencing, or attempting to influence, the impartiality of any Conduct Officer or Panel Member.

Alcohol or Other Drugs Violation.

Students and Student Organizations with alcohol and/or other drug use resulting in behavior creating a risk of danger to the health and/or safety of themselves or others are subject to this SCC. Students are responsible for compliance with any and all Alcohol and Other Drug policies applicable to their College or School of enrollment.

Bullying, Cyberbullying, and/or Threatening Behaviors.

Inciting, assisting, supporting, organizing, approving, or otherwise participating in any behavior that would constitute bullying, cyber bullying, and/or threatening behavior. Such behaviors are defined as repeated and/or individual actions, behaviors, communication (written or oral), or gestures directed at another member of the Wake Forest community that reasonably intimidates, humiliates, degrades, defames, controls, threatens, or intentionally causes, or attempts to cause, non-physical harm to the individual. This can include communication or conduct directed to other person/s, groups, or self. Prohibited behaviors may be in person, in print, via electronic means, or through social networking.

Complicity.

Helping or actively encouraging another person to engage in a violation of University policy.

Deception.

Making a false statement to a University or other official, or knowingly furnishing or possessing false, falsified or forged materials, documents, accounts, records, identification, or financial instruments.

Destruction or Defacement of Property or Premises.

Attempted or actual damage to or destruction of University Premises or Property or personal property of another person or organization.

Disorderly Conduct.

Behavior, on-campus or off-campus, which unreasonably interferes with the ability of others to sleep, study, or participate in the programs or activities of the University. Conduct or activity by students living in, hosting functions at, or attending functions at off-campus locations must not unreasonably interfere with the rights of others; and/or violations of University Policy on Demonstrations, Chalking, and Posting.

Disruption or Obstruction of University Activities.

Conduct that prevents or substantially impedes the normal operations of the University or a University function or activity, such as teaching, research, lectures, meetings, interviews, ceremonies, and public events; blocks the legitimate activities of any person on the campus or in any University building or facility; or violates any University policy or procedure, including University Policy on Demonstrations, Chalking, and Posting.

Failure to Comply.

Disregard for, refusal to comply with the directives of, or demonstrating uncooperative, abusive, or threatening behavior towards University officials, any law enforcement officer(s), or other first responder(s) during the performance of their duties; failure to identify oneself to these persons when requested to do so; and/or failure to comply with the outcomes resulting from student conduct proceedings or other University policy violations, including resolution agreements for any conduct process or policy.

Fire Safety.

Violation of applicable local, state, federal or campus fire laws, codes and policies including, but not limited to:

- Intentionally or recklessly causing a fire which damages University or personal property or which causes injury;
- Failure to evacuate University Premises during a fire alarm;
- Use of University fire safety equipment for an improper purpose; or
- Tampering with or improperly engaging a fire alarm or fire detection/control equipment while on University premises.

Gambling and Sports Wagering.

Persons under the age of 21 are prohibited from engaging in gambling or sports wagering in North Carolina. Students are prohibited from:

- engaging in harassment of student-athletes at Wake Forest or at other institutions because of gambling or sports wagering outcomes;
- attempting to gain non-public information from Wake Forest student-athletes for gambling or sports wagering purposes; or
- attempting to work with Wake Forest student-athletes to either place bets for the athlete or to affect gambling or sports wagering outcomes.

Harassment and Discrimination.

Harassment is any unwelcome conduct (including, but not limited to: verbal assault or abuse, graphic or written statements, use of technology, physical assault) that may be threatening, harmful, or humiliating and is subjectively and objectively offensive. To constitute harassment, the unwelcome behavior or communication, when considered in the totality of the circumstances, is so severe or pervasive that it has the purpose or effect of:

- creating an intimidating, hostile, or demeaning educational, living, or work environment, or
- denying or limiting a person's work performance or a student's ability to participate in or benefit from an educational program or activity.

Harassment is distinguished from behavior that, even though unpleasant or disconcerting, is appropriate to the carrying out of certain instructional, advisory, or supervisory responsibilities.

Discrimination is treating members of a protected category less favorably because of their actual or perceived membership in that category. The conduct may be verbal, nonverbal, written, electronic, or physical behavior and/or communication.

Behavior by an individual based on an individual's or group's sex/gender, sexual orientation, gender identity, or disability is addressed under the policies addressing sexual harassment, sexual misconduct, and/or retaliation or Student Disability Grievance Procedures. Harassment or Discrimination by an Organization based on an individual's or group's sex, sexual orientation, gender identity, or disability; or harassment or discrimination by an individual on the basis of any protected category excluding an individual or group's sex, sexual orientation, gender identity, or disability is addressed through the procedures in this SCC.

Harm to Others.

Intentionally, knowingly, or recklessly causing, or attempting to cause, physical harm to or endangering the health or safety of any person(s), groups, or self, including any behavior with the intent to kill, injure, or intimidate.

Hazardous Activity.

Creation of health and/or safety hazards, including, but not limited to, dangerous pranks, hanging out of or climbing from/on/in windows/balconies/roofs, and reckless driving.

Hazing.

See Anti-Hazing Policy. Any action taken or situation created for the purpose of initiation, admission into, affiliation with, or as a means of maintaining continued membership or favor in a group, organization, or team that: (1) endangers the mental or physical health or safety of any student; (2) unreasonably interferes with a student's academic, professional, or personal obligations; (3) humiliates, demeans, disgraces, or degrades a student; (4) is not relevant to the development of the individual within the context of the group, organization or team, or; (5)the action taken or situation created is excessive and unreasonable within the context of the group, organization or team.

Retaliation.

An adverse action or threat of adverse action taken against an individual for reporting behavior that may be prohibited by law or policy or participating in an investigation or resolution process related to an allegation of misconduct. Retaliation must be sufficiently severe or pervasive to create a work or academic environment that a reasonable person would consider intimidating, hostile, or abusive and that adversely affects the targeted individual(s) or student organization's educational, work, or living environment. Retaliation prohibited under the Policy Prohibiting Sex Discrimination, Sex-Based Harassment, and Retaliation will be addressed in accordance with that Policy.

Stealing.

The unauthorized taking, misappropriation, or possession of any property belonging to, owned by, or maintained by the University, an organization, or another individual, or the possession, retention, or disposal of stolen property.

Unauthorized Access.

Unapproved entry, or allowing another to enter, into or onto University Premises or Property, or space occupied by another person, without permission or authorization. Unapproved possession, duplication, or use of keys and/or cards, or aiding another in such activity, to gain entry into or onto any University Premises or Property or failing to report a lost Deacon OneCard or key.

Violation of a University Policy or Law by a Guest.

Any violation of a University policy or law by a guest of a Student or Student Organization.

Violations of Law or University Policy

Violating any federal, state, or local law or ordinances. Violating other policies, procedures, or rules, of the University or of the relevant College or School including, but not limited to, public health emergency policies, the Demonstrations Policy, and all Residence Life and Housing policies published in the Guide to Community Living (https://rlh.wfu.edu/guide-to-community-living/). In the event a specific policy, procedure, or rule has a process to address violations of that policy, procedure, or rule, University offices or departments may, at their discretion, make referrals to Student Conduct for coordination of response in cases of alleged violations.

Weapons.

Students may not bring or possess either openly carried or concealed weapons on campus, regardless of any state or federal law to the contrary. Possession, use, storage, or distribution of explosives (including fireworks and ammunition), guns (including air, BB, paintball, facsimile weapons, and pellet guns), or other weapons or dangerous objects such as arrows, axes, machetes, nunchucks, throwing stars, or knives, on University Premises or Property (whether on one's person, in a parked vehicle, in a building, or in outside spaces), except for authorized use in the Department of Military Science or authorized use by Campus Recreation.

Student Organizations

Although not all acts of individual members can or should be attributable to the Organization, an Organization may be held responsible for the actions of its members. Allegations of Student Organization misconduct may be adjudicated before, concurrent with, or following related cases of individual misconduct. Student Organizations can designate up to five (5) members or officers to represent the Student Organization in a Formal Resolution meeting.

Factors used in determining whether alleged violation(s) of the SCC can be attributed to an Organization may include, but are not limited to:

- Whether the alleged misconduct occurred at an event the Student Organization has, formally or informally, sponsored, co-sponsored, planned, financed, advertised, or endorsed;
- The number of Student Organization members and/or officers present;
- Whether the alleged misconduct is committed by members attending a function as a representative of the Student Organization or the University, including, but not limited to, competitions, conferences, and conventions;
- Whether members were acting in the name of the Student Organization;
- Whether the alleged misconduct occurs on the premises owned, leased, or operated by the Student Organization or its members; and/or
- Failure of the Student Organization to implement preventative measures where it is reasonably foreseeable that a violation could occur.

Interim and Other Actions

Interim Action

Based on the nature of a Student's or Student Organization's alleged behavior, the Dean of Students or designee may impose an Interim Action prior to the completion of the conduct process. Interim Action may be imposed when the Dean of Students or designee reasonably determines, based on the information available at the time when the decision is made, to:

- ensure the safety and well-being of members of the University community, including visitors, or others, and/or;
- preserve University Premises or Property or the property of any members of the University community, including visitors, and/or
- prevent disruption of, or interference with, the normal operations or activities of the University.

Interim Action may include, but is not limited to, prohibiting the Student or Student Organization from being on University Premises or Property, attending classes, attending programs and activities, or using University facilities. The Student or Student Organization will receive notice of any Interim Action taken in writing to their official University email address. Interim Action may be in place for no more than fifteen (15) business days pending the Resolution Meeting on alleged violation(s), unless the Resolution meeting is delayed due to administrative necessity or at the request of the Student or Student Organization.

At any time prior to the Resolution Meeting, a Student or Student Organization placed on Interim Action may request an Interim Action Review by submitting the request in writing to the Dean of Students or designee. The request for review must include a statement from the Student or Student Organization explaining why the Student or Student Organization believes the Interim Action is not warranted. The Interim Action Review must take place within five (5) business days of receipt of the request for review. A Conduct Officer who did not impose the Interim Action will conduct the Interim Action Review. The Interim Action may be modified, upheld, or reversed, and the Student or Student Organization will be notified of this outcome in writing. The outcome of the Interim Action Review is final, and any Interim Action will remain in effect until the conclusion of the conduct process.

No Contact Orders

No Contact Orders are issued in writing at the discretion of the Dean of Students or designee, based on administrative review of a situation involving two or more Students or Student Organizations. No Contact Orders are designed to be in the best interest of the Student(s), Student Organizations, or the University community. A No Contact Order is issued when there is reason to believe that an Order would be in the best interest of the involved parties and/or the community for promoting civility, safety and well-being. No Contact Orders do not require the approval, agreement, or prior notice to any Student or Student Organization involved.

1. A No Contact Order is often, but not always, mutual. Orders most frequently are two-way, preventing communication between Student(s) or Student Organization(s) named in the Order.
2. A No Contact Order can be issued prior to or as a result of a Resolution Meeting, or entirely outside of a conduct process for a specified or unlimited duration of time. No Contact Orders do not become part of a Student's or Student Organization's conduct record unless the student violates the order as determined through the University's conduct system, or unless the Order is the result of a conduct outcome.
3. No Contact Orders are not equivalent to court imposed restraining orders and do not guarantee that designated parties will avoid sightings or passing interactions on the campus or in the local community.
4. In some circumstances, a No Contact Order may restrict a Student or Student Organization from parts of the campus where the Student Organization would not have to engage in required activities. Students who are concerned about personal safety should contact University Police.

No Contact Orders are put in place to prevent communication between one or more Students or Student Organizations and specifically prohibits:

1. Direct communication through the means of verbal, written, email or other forms of communication;
2. Indirect communication through social media (including online postings and/or personal references);
3. Third party communication to initiate or transmit communication back to the other person.

Human Resources may initiate No Contact Orders between employees and students using procedures and processes managed by Human Resources.

Procedures

Making a Report

Incidents of alleged violations of the SCC should be reported to the Office of the Dean of Students or a conduct officer for the respective College or School. Any member of the University community may make a report concerning alleged violations of the SCC. Any delay in reporting may result in lost information or an inability to investigate the report.

Wake Forest University provides an option for anonymous reporting of any information you have regarding a suspicious person, any suspicious

activity, or a crime that has occurred on- or off- campus. To complete an online crime reporting form go to: https://police.wfu.edu/forms/silent-witness-form/. Do not use this form to report crimes in progress. Call 911 from any telephone to report a crime in progress.

Initial Review

After receiving a report, the Dean of Students or designee will determine if the reported behavior, if true, would constitute a violation of the SCC. The Dean of Students or designee may initiate interim action, in accordance with the Interim Action process.

Individuals who may have been harmed by the acts of a Student are not parties to the SCC process, but may be asked to provide information during an investigation of an alleged violation.

Notice of the Conduct Process

When a report has been filed and has not been dismissed following the initial review, the Student or Student Organization will receive Notice of the Conduct Process. The Notice of the Conduct Process will include a summary of the reported behavior, the date of the report, the alleged conduct violation(s), the assigned Conduct Officer, and an electronic link to the Code of Conduct. The Dean of Students or designee will initiate a Resolution Meeting and conduct an investigation or further review into the facts of the report.

Copies of Documents

Copies of documents, reports, letters, and similar information are not provided. Any Student or Student Organization alleged to have violated the SCC can view relevant information by working with the Conduct Officer or designee.

Publicity and Confidentiality

Investigations, conduct processes, and conduct outcomes are not publicized or open to the public. Conduct-related information is confidential and will only be disclosed in accordance with University policy or as may be permitted by law.

Disability Accommodations

A Student requesting accommodations must do so through the Wake Forest University Center for Learning, Access, and Student Success. Only accommodations approved through an accommodation letter will be considered.

Resolution

The process will be resolved either through an Informal Resolution or Formal Resolution meeting. The Dean of Students, or designee, will determine which method for resolution is appropriate and assign a Conduct Officer to the case. When possible, cases are resolved through an Informal Resolution meeting. Factors considered in determining whether a Formal Resolution meeting is appropriate include, but are not limited to, the severity and/or complexity of the alleged incident, possible outcomes, and the Student's or Student Organization's prior conduct record.

Student Conduct Advisors

Students or Student Organizations scheduled for a Formal Resolution meeting may request an advisor through the Dean of Students or designee. For undergraduate Students, advisors are usually students and are called Student Conduct Advisors (SCA). For graduate and professional Students, the Conduct Officer or Dean's designee may work with Students or Student Organizations to secure an appropriate person to support the Student or Student Organization throughout the conduct process. Advisors are usually Wake Forest University faculty or staff (but may be students) who have experience with student conduct. External advisors not affiliated with the University, including parents or attorneys, are not permitted to serve as advisors. The advisor is the only person a Student may have present in the meeting, unless otherwise permitted in these procedures. The respective Dean of Students or designee can provide information about the scope and role of the advisor.

Informal Resolution Meeting

If the Dean of Students or designee determines the case may be resolved through an Informal Resolution, the assigned Conduct Officer and the Student or Student Organization will meet to discuss the details of the incident. The Student(s) or Student Organization will be required to make an appointment with the assigned Conduct Officer. The Student or Student Organization is responsible for arranging this meeting within the parameters stated in the Notice of the Conduct Process. If the Student or Student Organization fails to arrange the required meeting, a hold may be placed on the Student or Student Organization's account. Meetings may take place in person or electronically, at the discretion of the Conduct Officer.

The Student or Student Organization may review the information leading to the allegations in advance of the Informal Resolution or may review the information during the resolution meeting. The Student or Student Organization will review all materials gathered by the Conduct Officer, discuss the situation and allegations, and have their account heard.

An Informal Resolution meeting is considered resolved when the following criteria are met:

- the assigned Conduct Officer and the Student or Student Organization agree Informal Resolution is a reasonable option given the circumstances, and the Student or Student Organization has not requested a Formal Resolution meeting;
- the Conduct Officer and the Student or Student Organization agree to the findings (Responsible or Not Responsible) for the alleged violation(s), and;
- the Student or Student Organization agrees to the outcomes.

If a resolution is reached through an Informal Resolution, the Conduct Officer will send the Student or Student Organization a copy of the decision for review and consideration. The Student or Student Organization will have three (3) business days to accept or reject the informal resolution. If the Student or Student Organization signs the decision, indicating acceptance of the findings and outcomes, the Student or Student Organization acknowledges there will be no further review or appeal of the findings and outcomes. If the Student or Student Organization declines to sign the findings or outcomes, the case will proceed with a Formal Resolution meeting.

Formal Resolution Meeting

Formal Resolution Meeting: The Student(s) or Student Organization will be notified of the designated meeting date, time, and location. Meetings may take place in person or electronically, at the discretion of the Conduct Officer.

The procedures of a Formal Resolution are as follows:

1. **Timeline**: The Student(s) or Student Organization will receive a Notice of the Conduct Process at least

five (5) business days prior to the Formal Resolution meeting. In addition to the summary of the incident, the date of the report, the alleged conduct regulation violation(s), the assigned Conduct Officer, and an electronic link to the Code of Conduct, the Notice will include the designated meeting date, time, and location, the witnesses being called by the University, and any other information (e.g., security video, access records) being presented. At certain times of the year, it may not be possible or practical for the Dean of Students or designee to provide the Student or Student Organization with five (5) business days of notice of the Formal Resolution meeting. In such an event, a Student or Student Organization may either waive this timeline or request, either electronically or in writing, their Formal Resolution meeting be expedited or delayed. The Conduct Officer will make the decision regarding the request and notify the Student or Student Organization electronically or in writing.

2. **Meeting Materials**: The Student(s), Student Organization, and Meeting Panelists may request to view all materials gathered in the case by working with the Conduct Officer or designee, which may include a Student Conduct Advisor. Copies of documents, reports, letters, and similar information are not provided.
3. **Failure to Attend**: Students and Student Organizations are expected and encouraged to attend in order to provide their perspective; if a Student or Student Organization does not attend a Formal Resolution meeting, the Conduct Officer may resolve the case without the Student or Student Organization. The choice not to attend or actively participate in the meeting is not a valid reason for an appeal.
4. **Meeting Panel or Conduct Officer**: The Conduct Officer will determine if the Formal Resolution meeting will be conducted in front of a Meeting Panel or if the Conduct Officer will proceed without a panel. Meeting Panelists will be determined by the School or College and will be selected from a trained, standing group of panelists. Meeting Panel members may include University faculty, staff, and/or students. Meeting Panels should include at least two panelists and a conduct officer to serve as the chair of the Panel, and may include up to ten (10) total members.
5. **Witnesses**: If the Student(s) or Student Organization identifies witnesses, the list of names and contact information must be provided to the Conduct Officer at least two (2) business days in advance of the Formal Resolution Meeting. If a Student, Student Organization, or the University's witness(es) cannot attend the meeting, remote participation may be permitted or a written or video statement may be presented. Only witnesses who can provide relevant information about the alleged violation(s), as determined by the Meeting Panel, will be allowed. Character witness statements or testimony are not permitted.
6. **Recordings**: All meetings will be recorded by the Conduct Officer. Recording by others is not permitted. Recesses and deliberations are not recorded.
7. **Privacy**: Formal Resolution meetings are private. Only the Student or designee(s) of the Student Organization, meeting panelists, Conduct Officer, witnesses, and assigned Student Conduct Advisors are allowed in the meeting. Students or Student Organizations may request one (1) support person who is a current member of the Wake Forest University community. A support person is present only for support of the Student or Student Organization and may not participate in the meeting.
8. **Joint Meetings**: Two or more Students or Student Organizations may participate in a joint Formal Resolution meeting if they are alleged to have participated in the same incident. The allegation/s and/or the alleged factual circumstances need not be identical for participation in a joint meeting. Any Student or Student Organization scheduled to participate in a separate meeting may request, in writing, a joint meeting if all participants agree. If a Student or Student Organization requests a joint meeting prior to the scheduled Formal Resolution, the Conduct Officer will determine the feasibility of the request.
9. **Multiple Incidents**: A Student or Student Organization alleged to have violated the SCC in unrelated incidents in a short period of time (less than 30 business days) may request to have a single Formal Resolution meeting to resolve all allegations. A request for a combined meeting must be submitted in writing to the Dean of Students or a designee prior to the date of the scheduled meeting.
10. **Standard of Responsibility**: The Student or Student Organization alleged to have violated the SCC shall be presumed Not Responsible. The standard of proof for a finding of responsibility shall be a "preponderance of the information", meaning it is "more likely than not" based on the information presented during a Resolution Meeting that the alleged conduct violation(s) occurred. It is the responsibility of the University to establish whether there is sufficient information to meet the standard. Rules of evidence applied in civil and/or criminal legal cases do not apply to the Informal and Formal Resolution meeting processes.
11. **Request for Delay**: Except in emergency circumstances, at least three (3) business days prior to the scheduled Formal Resolution meeting, the Student or Student Organization may request, in writing to the Conduct Officer, a delay in the Formal Resolution meeting. The request must include the reason for the delay and the length of the delay. The Conduct Officer will make the decision regarding the request and notify the Student or Student Organization electronically or in writing. The Student or Student Organization will be notified if the University must delay a Formal Resolution meeting for administrative purposes.

12. **Order of a Formal Resolution Meeting**: The order of the Formal Resolution meeting will be as follows:

    12.1 The Conduct Officer will begin the meeting with an introduction of Meeting Panelists, if relevant, a review of the proceedings, and a summary of the conduct process.
    12.2 Student(s) alleged to have violated the Code of Conduct are introduced, and an affirmation of honesty (as determined by the College or School) will be administered.
    12.3 The allegation(s) will be read, and the Conduct Officer will present all information regarding the incident. The Student or Student Organization will be asked if they are responsible for the allegation(s).
    12.4 The Student(s) may provide a statement or narrative regarding the incident and the allegations(s).
    12.5 The Student or Student Organization's witness(es) will be called into the Meeting one at a time. Each witness will be introduced and an affirmation of honesty (as determined by the College or School) will be administered. During the Meeting, the witness(es) may read a prepared statement and/or respond to questions from the Student or Student Organization.
    12.6 The Meeting Panelists may ask questions of the Student or Student Organization and any witnesses at any time.
    12.7 The Conduct Officer will call witnesses. Each witness will be introduced and an affirmation of honesty (as determined by the College or School) will be administered. Any witness(es) may read a prepared statement and/or respond to questions from the Conduct Officer.
    12.8 The Meeting Panelists and/or the alleged Student(s) or Student Organization may ask questions of the witness(es) called by the Conduct Officer.
    12.9 After all witnesses have been heard and the Meeting Panelists have concluded asking questions, all witnesses are released from participation in the Formal Resolution Meeting.
    12.10 The Conduct Officer will ask the Student(s) or Student Organization if they would like to share any additional information or make a closing statement.
    12.11 The Meeting is adjourned, the recording is stopped, the alleged Student(s) are released, and the Panelists will remain for deliberation. The Conduct Officer remains to respond to questions of procedural concern or as needed by the Panelists.
13. **Procedural Concern**s: All procedural questions raised during the Formal Resolution process will be addressed by the Conduct Officer, and all decisions of the Conduct Officer are final.
14. **Decisions for Formal Resolution Meetings**: The Formal Resolution Meeting Panel advises the Conduct Officer regarding findings and outcomes. Following the conclusion of a meeting, the Panel will deliberate and advise on Finding(s). If the Panel recommends a finding of "not responsible" for the allegation(s), and the Conduct Officer accepts the Panel's recommendation, there will be no outcomes. If the Panel recommends a finding of "responsible", and the Conduct Officer accepts the Panel's recommendation for the allegation(s), the Panel will recommend appropriate outcome(s). The Conduct Officer is responsible for informing the Panelists of applicable precedent and any previous conduct violations. The Conduct Officer will determine the outcomes for the Student and will deliver an outcome letter to the Student(s) or Student Organization(s) electronically or in writing, generally via email.

Findings

Wake Forest University recognizes the following as possible outcomes of a conduct meeting:

Responsible

A Student or Student Organization has accepted responsibility for a violation of the SCC through the Informal Resolution meeting, has been found responsible through a Formal Resolution meeting, or has accepted limited responsibility in accordance with the Proactive Medical Support Policy. A Student or Student Organization who is responsible for a conduct violation may receive one or more of the outcomes listed below.

Not Responsible

The Student or Student Organization is not responsible for the alleged violation.

Outcomes

Outcomes are intended to challenge students' moral and ethical decision-making and to change behaviors. If a Student or Student Organization does not meet community expectations, the student conduct process may determine that the Student or Student Organization should no longer share in the privilege of participating in the Wake Forest community. Suspension or Expulsion during a term will not result in a refund of tuition, housing, dining, or other charges.

The nature of the finding(s) and specific circumstance(s) will be considered when determining the outcome of a Resolution meeting. Outcomes are issued on a case-by-case basis and are dependent upon factors including, but not limited to, the nature and severity of the finding(s), the presence of mitigating or aggravating circumstances, whether the Student or Student Organization has had a prior conduct finding, and the disciplinary status of the Student or Student Organization. Wake Forest facilitates learning through student conduct by providing tools and resources to assist students in learning from their experiences to make better decisions in the future. Wake Forest believes in supporting Students and Student Organizations while challenging their behaviors, decisions, and actions. Conduct Officers and Panelists are encouraged to consider outcomes to encourage critical thinking; outcomes focused on accountability for actions, behaviors, and decisions; and outcomes supporting the safety and security of the University community. Other University policies may have presumptive outcomes, and those presumptions will be considered when determining outcomes.

Outcomes are considered in four broad categories:

Educational / Developmental

Educational and developmental outcomes are designed to prompt Students and Student Organizations (and their members) to learn, grow, develop, and to support behavioral change through the use of educational, research, and growth-focused strategies. Educational outcomes include, but are not limited to:

Educational Program: Attendance at programs, events, services, workshops, trainings, seminars, or activities.

Educational Papers: Academic papers which may require components of research, reflection, analysis, and similar academic endeavors designed to encourage and support learning.

Reflective Papers: Papers which are not academic, but instead require assessment, reflection, consideration of actions and decisions, and other efforts to prompt behavioral change.

Substance Use / Abuse / Misuse Assessment: Educational programs, assessments, and evaluations from an appropriate professional on-campus or off-campus. Additional education or treatment may be required as a result of the assessment.

Restitution: Payment for damage caused to the University or a person's property. Such payment may cover costs to restore or recover the value of the property destroyed, damaged, consumed, or stolen; it is not a fine.

Prevention

Suspension Withheld: A specified period of time during which the Student is considered not in good conduct standing with the University. This outcome is assigned for violations serious enough to warrant suspension from the University, but the student is given an opportunity to remain enrolled at the University. During this period, if the Student is found responsible for violating additional parts of the SCC, Suspension may become immediately effective. A Student may be required to meet periodically with a Dean (or other University official) and other actions deemed appropriate by the Conduct Officer may also be imposed, including, but not limited to, restitution, limiting or prohibiting participation in University-affiliated activities and organizations, and ineligibility for service as an officer or to have a leadership role in University organizations or committees.

Activities Suspension: Limited participation in non-academic activities for a specified period of time, as identified by the Conduct Officer. This may include ineligibility to participate or hold office in any organization at the University or to represent the University in the greater community. Participation in study abroad programs, non-academic conferences/ retreats, OPCD and job search activities, ambassador roles, intramural teams will be considered by the Conduct Officer or Meeting Panel based on the conduct findings. Work-study jobs are not suspended during this time.

Disciplinary Probation/Disciplinary Warning: A specified period of time during which a Student has the opportunity to demonstrate the ability to abide by the community's expectations of behavior articulated in the SCC. If the Student is found responsible for another violation of the Code during this period, serious consideration will be given to imposing an outcome of Suspension. A Student may be required to meet periodically with a Dean (or other University official) during their period of probation. A Student on Disciplinary Probation is still in good conduct standing with the University.

University Housing Probation: Official notice that if further violations of the SCC occur during a specified probationary period the Student may be immediately removed from University Housing.

University Housing Reassignment: Reassignment to another University housing facility as determined by the Department of Residence Life and Housing.

University Housing Suspension or Expulsion: Removal from University housing for a specified period of time up to, and including, permanent removal. Conditions for readmission to University housing may be specified. Under this outcome, a Student is required to vacate University housing within 24-hours of notification of the action, though this deadline may be extended upon application to, and at the discretion of, the Executive Director of Residence Life and Housing or designee. This outcome may include a restriction for specified buildings or all University housing during the period of suspension or expulsion.

On-campus Living Requirement: Removal from off-campus housing assignment to a University housing facility as determined by the Department of Residence Life and Housing

Residency Requirement Extension: Requirement to live on-campus beyond the specified residency requirement period.

Student Organization Restrictions: Restriction or removal of some or all of the Student Organization's activities or privileges, including, but not limited to, social, recruitment, and lounge privileges.

Student Organization Deferred Suspension of University Recognition: Removal of the Student Organization's recognition by the University is deferred pending the completion of requirements specified in the decision of the Conduct Officer or Meeting Panel. An additional finding of responsibility during the suspension period will result in suspension or revocation of University Recognition.

Restorative

Restorative Actions: Requirement to engage in actions that attempt to make amends for the negative impact of a violation and to repair the harm that resulted from the misconduct. These actions may include, but are not limited to, activities such as letters of apology, drafting and implementing a plan of resolution (together with the Conduct Officer), engaging in restorative justice conferences, or developing plans for reintegration.

Community Service: Assignment to work a specific number of hours at a community service site approved by the Conduct Officer and may be on or off campus.

Separation and Status

Suspension: Separation from the University for a specified minimum period of time, after which the student is eligible to return. Eligibility to return may be contingent upon satisfaction of specific conditions noted in the outcome letter. During the suspension period, the Student may not be present on University premises, at University functions, events, and/or activities, on or off campus, without prior written approval from the Dean of Students or designee.

Expulsion: Permanent separation from the University without the possibility for re-enrollment. The Student may not be present on University premises, at University functions, events, and/or activities, on or off campus.

Withholding Degree: The University may withhold awarding a degree otherwise earned until the completion of the process set forth in this Student Conduct Code, including the completion of all conduct outcomes.

Student Organization Suspension of University Recognition: Removal of the organization's recognition by the University for a specific period of time. The period of time and any requirements, which must be satisfied prior to review for reinstatement, will be specified in the decision of the Conduct Officer or Meeting Panel.

Student Organization Expulsion and Revocation of University Recognition: Permanent separation from the University and termination of the organization's relationship with the University.

Appeals

Appeals are considered only for findings and/or outcomes of a Formal Resolution meeting.

The Dean of the School or College, or their designee/s, is the final appeal authority for all SCC violations as determined through a Formal Resolution meeting. The Dean, at their sole discretion, may delegate appeal decisions to an individual, committee, ad hoc group, or similar. The decision of the Dean or designee is final, binding, and the end of the conduct process.

Requests for an appeal must be submitted in writing within 14 calendar days of receipt of the outcome letter. Requests for an appeal must be submitted to the Dean of the School or College or their designee, as noted in the outcome letter.

Students or Student Organizations who have received an outcome other than Suspension or Expulsion are not guaranteed an appeal meeting. Students with an outcome of Suspension or Expulsion will be automatically granted an appeal meeting if the request is made in writing within 14 calendar days of receiving notification of the outcome letter.

An appeal request must state one or more of the following grounds for an appeal:

- insufficiency of information to support the decision;
- severity of the outcome;
- presence of new information not available at the time of the Formal Resolution meeting; or
- procedural error significantly impacting the finding(s) or outcome(s).

If the appeal request is declined, the Student or Student Organization will be notified electronically or in writing by the Dean of the School or College or their designee. If the appeal request is granted, the Dean of the School or College will notify the Student or Student Organization electronically or in writing of the date for the appeal meeting.

Specific appeal procedures for the School and Colleges may be outlined on the Student Conduct website for the School or College of enrollment.

Student Conduct Records Disclosure

The University determines reportability of conduct records, as outlined below.

Conduct System Record Disclosure

A Student or a Student Organization has a conduct record if they are found responsible for a violation of this SCC.

- Internal Disclosure of Records: In compliance with the Family Educational Rights and Privacy Act ("FERPA"), University officials with a legitimate educational interest (such as study abroad programs reviewing a Student's eligibility for study abroad, scholarship review committees, etc.) may review a Student's conduct record in the Office of the Dean of Students.
- External Disclosure of Records: The University will disclose information from a Student or Student Organization conduct record to a third party with written consent of the Student or Student Organization or as may otherwise be permissible by law.
- A Student may review all or part of their conduct record by making a request through the Office of the Dean of Students.

Information subject to disclosure:

The following violations for which the Student or Student Organization was found responsible are reportable conduct violations:

- Theft (value of item/s more than $500)
- Deception (not including possession or use of false identification to change age)
- The policies addressing sexual harassment, sexual misconduct, and/or retaliation
- Use, possession, manufacture, sale, distribution, or transportation of illegal drugs, excluding findings for possession or use of Marijuana/Cannabis. Alcohol misuse and possession or use of Marijuana/Cannabis will be disclosed if the violation results in a Suspension or Expulsion.
- Weapons
- Harm to Others
- Harassment
- Hazing
- Bullying/Cyberbullying, Threatening Behavior
- Retaliation
- Any outcome of Suspension or Expulsion

Reportable violations will include the date of the incident, the date the Student or Student Organization was found responsible, finding(s), outcome(s), outcome completion status, and a brief summary of the incident. Notwithstanding the foregoing, information disclosed pursuant to a legal process will include all information and records that are responsive to the request.

Pending hearing:

A Student or Student Organization with pending conduct allegations may have a notation reported on their conduct record stating, "This individual has a pending conduct matter for which, if found responsible, would be disclosed externally.

Related Policies

Anti-Hazing Policy

Wake Forest University prohibits hazing and any conduct that aids, abets, assists, or supports another in hazing. "Hazing" is any action taken or situation created for the purpose of initiation, admission into, affiliation with, or as a means of maintaining continued membership or favor in a group, organization, or team that: (1) endangers the mental or physical health or safety of any student; (2) unreasonably interferes with a student's academic, professional, or personal obligations; (3) humiliates, demeans, disgraces, or degrades a student; (4) is not relevant to a student's development within the context of the group, organization or team; or (5) the action taken or situation created is excessive and unreasonable within the context of the group, organization or team.

The consent or willingness of the person subjected to hazing, either expressed or implied, is not a defense to hazing.

Wake Forest prohibits retaliation against any person who acts in good faith to stop, prevent, or report potential hazing activity, or who participates in an investigation involving hazing allegations. Wake Forest encourages reports of potential hazing or retaliation, and reports can be made at this website: https://hazing.wfu.edu/report-hazing/ or by calling 336.758.HAZE (4293).

Persons who cause physical injury by hazing, or who aid or abet others in physical injury by hazing, are also subject to arrest and criminal liability under North Carolina law (https://www.ncleg.gov/enactedlegislation/statutes/pdf/bysection/chapter_14/gs_14-35.pdf).

Violations of this policy may result in sanctions under the Student Code of Conduct, up to and including Disciplinary Suspension and Disciplinary Expulsion. The Student Conduct Office will coordinate hazing investigations with other appropriate University units and a proceeding may determine outcomes for alleged violations of this policy and other University policies.

Hazing results from a power imbalance between members of a group, organization or team. Hazing due to this imbalance can impact any member of the group, organization, or team, regardless of status. Hazing can take place in various forms, including Intimidation Hazing, Harassment Hazing, and/or Violent Hazing.

Intimidation Hazing

This involves conduct that emphasizes the power imbalance between members of the group, organization, or team, and current members, new members, or students seeking or maintaining affiliation. This is termed "intimidation hazing" because this type of hazing is often taken for granted or accepted as harmless or meaningless.

Intimidation hazing typically involves activities or behaviors that breach reasonable standards of mutual respect and results in new members being ridiculed, embarrassed, and/or humiliated. Members often feel the need to endure intimidation hazing to feel like part of the group or community. Examples of intimidation hazing include, but are not limited to:

- Required periods of silence
- Deprivation of privileges
- Social isolation
- Name calling
- Assignment of duties not assigned to other members, including event preparation and/or clean up, driving requirements, and similar obligations or assignments

Harassment Hazing

This involves conduct that causes emotional anguish or physical discomfort to members so that they feel like part of the group. Members subjected to harassment hazing often experience confusion, frustration, and undue stress. Examples of harassment hazing include, but are not limited to:

- Verbal abuse
- Threats or implied threats
- Sexual simulations or nudity
- Requiring situationally inappropriate attire or changes to physical appearance, such as the cutting of hair, wearing makeup or markers, or other alterations
- Sleep deprivation

Violent Hazing

This involves conduct that causes or could cause physical or psychological harm. Examples of violent hazing include, but are not limited to:

- Forcing or coercing alcohol or other drug consumption
- Forcing or coercing physical activity or exercise, such as pushups, "planking," ""bows and toes," or similar
- Forcing or coercing sexual acts
- Beating
- Paddling or other forms of battery
- Branding or tattooing
- Creating a threatening circumstance such that a student reasonably fears for their personal safety
- Forcing or coercing ingestion of vile substances
- Placing students in the shower against their will
- Bondage
- Kidnapping
- Expecting participation in illegal activity or in an activity that would otherwise violate the Student Code of Conduct or other University policy.

Disciplinary suspension or disciplinary expulsion will be strongly considered for students and/or student organizations found responsible for violent hazing, harassment hazing, and retaliation. Additionally, students or student organizations who use deception or collude with others to obstruct a hazing investigation will receive the same disciplinary consideration.

Alcohol and Other Drug Policy for Undergraduate Students

General Regulations and Policy

Possession or consumption of alcoholic beverages and/or other drugs is permitted only in accordance with this policy and applicable laws. Failure to comply with this policy and applicable laws could subject the individual and/or group to conduct action within the University.

When consumption of alcoholic beverages is permitted by students and their guests of legal age on campus, such consumption is limited to beer, unfortified wine, and other malt beverages. Permitted beverages must contain 16% or less alcohol by volume (ABV). Distilled alcoholic

beverages and other beverages with an ABV greater than 16% may not be consumed except at events held at a licensed establishment or where alcohol is served by a licensed third-party vendor.

When possession of alcoholic beverages is permitted by students and their guests of legal age on campus, such possession is limited to beer, unfortified wine, and other malt beverages. Permitted beverages must contain 16% or less alcohol by volume (ABV). Distilled alcoholic beverages and other beverages with an ABV greater than 16% may not be possessed on campus.

Students and their guests of legal age may consume alcoholic beverages (beer, unfortified wine, and other malt beverages) in the following locations on the Reynolda campus: residential living spaces within residence halls, leased lounges, independent lounges, common spaces in apartment-style living suites, Shorty's, Zick's, and at special event venues during registered events.

Students and their guests of legal age may consume alcohol on leased patio areas after 5:00 p.m. on weekdays and after 12:00 PM on Saturday and Sunday.

When participating in study/travel abroad programs, students are expected to abide by the legal drinking age and/or applicable laws in the country(ies) where they study/travel.

Individual and Organizational Regulations

1. Alcohol and Other Drug Misuse:

    a. Use of alcohol/or other drugs that results in behaviors, physical signs, and medical consequences, including but not limited to: staggering, difficulty standing or walking, slurred speech, passing out, blackouts (loss of memory), vomiting, retching, bloodshot and/or glassy eyes, strong odor of alcohol and/or other drugs, physical injuries, or other medical problems.

    b. A pattern of recurring episodes of alcohol and/or other drug-related violations of the SCC.

    c. Use of alcohol and/or other drugs in association with inappropriate behavior including/but not limited to:

Harassment

Threatening Behavior

Destruction or Defacement of Property or Grounds

Failure to Comply with the Directions of University Officials

Any other behavior that violates the Undergraduate SCC

2. Assisting or Encouraging Underage Possession, Purchase, or Consumption of Alcoholic Beverages: Helping or actively encouraging another person to engage in violations of University's Undergraduate Alcohol and Other Drug Policy. The student is also responsible for misconduct if they permit underage alcohol use within their residence hall room or off-campus residence, or otherwise provide a setting that allows for the underage consumption of alcohol.

3. Open Containers: Possessing an Alcoholic Beverage in open containers outside Designated Areas. Residents and their guests are not allowed to carry primary or secondary open containers of alcohol to or from suite/floor lounges at any time.

4. Public Consumption: Consumption of Alcoholic Beverages, on or off-campus, in a place which is generally viewable to the public or other students, unless the consumption is permitted as part of a registered event or approved special event (e.g., approved tailgating area).

5. Possession of Prohibited Form of Alcohol: When possession of alcoholic beverages is permitted on-campus, such possession is limited to Alcoholic Beverages with 16% or less alcohol by volume (ABV).

6. Driving While Impaired and/or Driving Under the Influence: Because of the danger that drivers under the influence pose to themselves and to others, the operation of a vehicle while under the influence of alcohol or other drugs is prohibited. For purposes of this policy, "driving under the influence" is defined as a situation in which the operator of any motorized vehicle is determined by admission, by testing for blood alcohol content, or by commonly accepted behavioral observations (e.g., slurred speech, staggering, etc.), to be driving such vehicle after having consumed Alcoholic Beverages or ingested other Drugs or legally controlled substances to a degree that has altered, inhibited, or impaired the student's ability to think and/or act.

7. Underage Purchase or Attempt to Purchase Alcohol: No student under the age of 21 may purchase or attempt to purchase Alcoholic Beverages.

8. Underage Possession and/or Consumption of Alcohol: No student under the age of 21 may possess or consume Alcoholic Beverages. Additionally, no student under the age of 21 may possess empty primary alcohol containers.

9. Sale of Alcoholic Beverages: The sale of Alcoholic Beverages except for sales by University-approved licensed vendors.

10. Use, Possession, Sale, Manufacture, Distribution, or Display of Controlled, Illegal or Prohibited Substances and/or Paraphernalia: Any possession, use, sale, manufacture, distribution, or display of controlled, prohibited, or illegal substances and/or Paraphernalia. The use of (or intent to use) substances for purposes or in manners not as directed. Cannabis is prohibited, including any cannabis product or products that contain any amounts of any form of THC, including edibles, alternative cannabis products (i.e. tinctures, lotions/balms/transdermal patches, concentrates, etc.), vapes for use with cannabis oils, etc. If University officials respond to the smell of cannabis, the University may proceed with a conduct process and determine, based on the totality of the information, that it is more likely than not the substance is cannabis, and thus is prohibited. The factors to be considered include but

are not limited to: the smell of cannabis, the presence of paraphernalia related to cannabis use (water bongs, grinders, pipes), behaviors indicative of cannabis/THC intoxication, and any applicable packing or testing.

11. Use of Common Source Containers: The use of common source containers except by University-approved licensed vendors or during events pursuant to University Athletics policies.

12. Drinking Practices or Games that Promote Misuse of Alcohol: Active participation in games and activities that promote high-risk drinking or rapid alcohol consumption. This includes, but is not limited to, flip-cup, pong (including "water pong"), quarters, split-a-bottle, Edward 40-hands, shot-gunning, shots, consuming a minimum volume of alcohol within a set time period, and chugging.

13. Unauthorized Containers or Paraphernalia: Beer bongs, funnels, or any other paraphernalia which encourage or support alcohol misuse are prohibited.

14. Advertising, Referencing or Promoting Alcoholic Beverages, Drug Use, or Bars/Taverns: No reference to alcoholic beverages, illegal drug use or off-campus bars/taverns may appear on any poster, sign, flier, or social media posting (except programming/prevention messaging from approved offices within University departments). This includes, but is not limited to, College Night, Drink Specials, BYOB or Your Favorite Beverage. Student organizations or student initiatives that involve election campaigns are also not allowed to reference alcoholic beverages or off-campus bars/taverns as part of election marketing.

15. Social-Hosting Regulations: Student organizations hosting social functions where alcohol is consumed must abide by all University regulations and applicable laws. Such groups are responsible for managing their social functions in a manner consistent with this policy. For the purposes of this policy, this includes registered student organizations and other informal groups of students hosting social events.

- Persons of legal drinking age may consume alcoholic beverages at social functions registered in accordance with this policy. Attendance at such functions is limited to Wake Forest University students and their invited guests.
- Hosts will verify by checking government-issued identification that individuals who consume alcoholic beverages at a social function are at least 21 years of age. Acceptable forms of identification are valid forms of: Driver's License, State Issued Identification, Passport, or Military Identification.
- Hosts must prominently display information regarding North Carolina state law regarding alcohol use.
- No alcohol is permitted at formal recruitment functions.
- Groups holding social functions at any off-campus location where alcohol is available must abide by all applicable laws and be aware that their organization represents Wake Forest University. The group may be held accountable for its actions and the actions of its members through the University judicial process.
- Alcoholic beverages may not be stored/held in lounges at any time other than during an officially registered social function.
- Alcoholic beverages for social events sponsored by student organizations may not be purchased with Student Activity Fee (SAF) or Student Budget Advisory Committee (SBAC) funds. Student Government and Student Union may utilize SBAC funding to purchase alcohol for Campus-wide events in accordance with University event planning guidelines for undergraduate organizations.
- All social function hosts are responsible for knowing and following the Guidelines for Hosting Social Functions.

Administration of the Policy

- The Alcohol and Other Drugs Coalition reviews the University Undergraduate Alcohol Policy and related procedures no less than on a biennial basis. The Alcohol and Other Drugs Coalition reports its findings and makes recommendations to the Vice President for Campus Life.
- The implementation and enforcement of the University Undergraduate Alcohol Policy is under the direction of the Vice President for Campus Life.
- Reported or suspected violations of the University Undergraduate Alcohol Policy will be addressed in accordance with the SCC.

Definition of Terms

- Alcoholic Beverage: Any liquid containing at least one-half percent (0.5%) alcohol by volume, including beer, wine, malt beverages, liquor, or mixed drinks.
- Alcohol Paraphernalia: Any material, product, instrument, or item used to create, distribute, manufacture, use, conceal, or ingest alcohol.
- Bar/Tavern: An establishment for the sale of beer and other drinks to be consumed on the premises, sometimes also serving food for which >50% of revenue comes from the sale of alcohol.
- BYOB: A social event where individuals bring their own Alcoholic Beverage. If an event is designated as "BYOB," collective purchasing of alcohol (by members or non-members of the sponsoring organizations) is prohibited.
- Common Source Containers: Kegs, coolers, and similar containers of Alcoholic Beverages intended to serve as a source of such beverages for multiple persons at a party or other gathering.
- Designated Areas: locations on the Reynolda campus where Students, Student Organizations, and

their guests of legal age may consume Alcoholic Beverages. The following are Designated Areas: residential living spaces within residence halls, leased lounges, independent lounges, common spaces in apartment-style living suites, Shorty's, Zick's, and at special event venues during Registered events.

- Distribution: "Sharing" or providing access to alcohol or other drugs. It does not require the exchange of money, goods, or services.
- Drug: A chemical substance used in the treatment, cure, prevention, or diagnosis of disease or used to otherwise enhance physical or mental well-being; a habit-forming medicinal or illicit substance, especially a narcotic.
- Drug Paraphernalia: Any material, product, instrument, or item used to create, manufacture, distribute, use (ingesting, inhaling, or otherwise introducing any drug into the body), conceal, or otherwise manipulate any drug and includes, but is not limited to, hypodermic needles, syringes, bongs, vaporizers, or pipes.
- Possession: Transportation, ownership, control, or consumption of an Alcoholic Beverage or Drug. Students are presumed more likely than not to be in possession if the item is found in their room, vehicle, belongings, or other space within their direct or indirect control. More than one individual may have possession of an Alcoholic Beverage or Drug.
- Primary Container: The original packaging (including cans, bottles, boxes, or other packaging) in which an Alcoholic Beverage is distributed by the manufacturer.
- Registered: Any social event that has been approved and recorded by the Office of Student Engagement, or other appropriate office.
- Secondary Container: Any device into which an Alcoholic Beverage has been transferred from its primary container. Also, any cup or container used to conceal the identity of the Alcoholic Beverage (such as a Koozie).

Proactive Medical Support Policy for Undergraduate Students

Wake Forest is committed to the safety and wellbeing of its students. The University encourages and expects students who are concerned about their own health or the health of another student due to alcohol and/or drug use to proactively seek medical support. The University recognizes the potential for a conduct action by the Office of the Dean of Students may deter students from seeking medical assistance, and this Proactive Medical Support Policy is intended to eliminate that barrier.

This Proactive Medical Support Policy applies to:

- Students who proactively seek medical support for themselves due to use of alcohol and/or other drugs,
- Students who proactively seek medical support for another person due to that person's use of alcohol and/or other drugs, and
- Student organizations seeking medical assistance for their members or guests due to the member(s)' or guest(s)'s use of alcohol and/or other drugs.

Individual: Students will be eligible for Proactive Medical Support when it is determined they proactively sought medical assistance for themselves or if others sought medical assistance for them in a proactive manner related to the use of alcohol and/or other drugs. The term "proactive manner" means a student would seek out the assistance of law enforcement or medical personnel (examples include a Winston-Salem or University Police Officer or a member of the Wake Forest University Emergency Medical Services staff) or residence hall staff member (examples include a Gra duate Hall Director or Resident Adviser) trained student staff (examples include an Event Resource Manager or Deacon Patrol member), or using a specific university resource (such as Deacon Health Service or calling 911). A student who is seeking Proactive Medical Support for themselves will be required to comply with recommendations of the Office of the Dean of Students. Recommendations may consist of, but not be limited to, the following:

- Educationally-focused outcomes:
  - Referral to an Alcohol and Other Drug Counselor for an alcohol or other drug assessment
  - Educational opportunities to assist in avoiding future high-risk situations
  - Online or in-person educational programs, such as AlcoholEDU, BASICS, or similar
- Prevention-based outcomes:
  - A period of warning or probation
- Restorative and community-focused outcomes:
  - Apology letter
  - Residence Hall programming and/or educational efforts

If the student satisfactorily completes the process through the Office of the Dean of Students, allegations, findings, and outcomes will not be reported externally to graduate or professional schools or on background checks. In addition, Proactive Medical Support will not be granted to students needing medical assistance who refuse to cooperate with medical providers, law enforcement, or University personnel at the time medical assistance is sought.

Students who seek medical assistance for another person experiencing an alcohol or other drug related emergency may also be granted Proactive Medical Support, in support of their help-seeking behaviors. Outcomes may include the same outcomes noted above.

Organizational: Student organizations may be eligible for Proactive Medical Support when it is determined that they sought medical assistance for members and guests in a proactive manner related to the use of alcohol and/or other drugs. The term "proactive manner" means that the student organization would seek out the assistance of law enforcement or medical personnel (examples include a Winston-Salem or University Police Officer or a member of the Wake Forest University Emergency Medical Services staff) or residence hall staff member (examples include a Graduate Hall Director or Resident Advisor) trained student staff (examples include an Event Resource Manager or Deacon Patrol member), or using a specific university resource (such as Student Health Service or calling 911). A student organization seeking Proactive Medical Support will be required to comply with recommendations of the Office of the Dean of Students in order to be granted the amnesty. Failure to seek medical assistance may result in disciplinary action

against the student organization and/or its members. The student organization seeking medical attention for another person will not receive charges related to alcohol and other drugs by the Dean of Students or his/her designee, provided the student organization and/or its members complete any educational recommendations assigned by the Office of the Dean of Students. The Office of The Dean of Students reserves the right to notify the Inter/national headquarters of recognized student organizations, even when amnesty is given. Failure to comply with the recommendation(s) may result in alcohol and/or drug violations under the Code of Conduct.

Individual students or organizations that actively seek immediate medical assistance for another person may still receive Proactive Medical Support regardless of the compliance of the individual for whom medical assistance was sought.

If a student and/or a student organization received Proactive Medical Support for a prior incident or has prior alcohol or other drug conduct cases, the availability of amnesty is at the discretion of the Office of the Dean of Students. Proactive Medical Support applies only to alcohol and other drug violations under the SCC and does not eliminate the possibility that other allegations may be made to address other prohibited conduct such as but not limited to, assault, property damage, or distribution of illegal or illicit substances.

This policy applies only to those students or student organizations seeking medical assistance due to alcohol or other drug use and does not apply when the individual in need of medical assistance is found by University employees, including Resident Advisers.

University Policy On Demonstrations, Chalking, And Posting

Wake Forest University has a policy on demonstrations, chalking, and posting. See the entire policy in the University's Policy Library, https://policy.wfu.edu/demonstrations-chalking-and-posting-policy/.

Summary of Computing Rights and Responsibilities

The policy applies to all computer and computer communication facilities owned, leased, operated, or contracted by the University. This includes, but is not limited to, tablets, personal computers, laptops, smart phones, computer networks, computer peripherals, and software, whether used for academic, administration, research or other purposes. This also includes use of University data or access to computer systems by personal devices such as computers, tablets, and smart phones by faculty, staff, students and guests. The policy extends to any use of University facilities to access computers elsewhere.

Wake Forest University provides each of its students and faculty with an email account. Outside of the classroom, email is an important means of communication between faculty, staff, and students. It is the responsibility of the student to regularly monitor his or her Wake Forest email account for University communications.

Basic Principles. The University's computing resources are for administrative, instructional, educational, and research use by the students, faculty, staff, vendors and contractors of Wake Forest University. Ethical standards which apply to other University activities (Honor Code, Social Regulations and Policies, and all local, state, and federal laws) apply equally to use of University computing resources.

As in all aspects of University life, users of the University's computing resources should act honorably and in a manner consistent with ordinary ethical obligations. Cheating, stealing, making false or deceiving statements, plagiarism, vandalism, and harassment are just as wrong in the context of computing resources as they are in all other domains.

Use of campus resources is restricted to authorized users. For the purposes of the Policy on Ethical and Responsible Use of Computing Resources, an "authorized user" is defined as an individual who has been assigned a login ID and authentication credentials such as a password for use of computing resources. Authorized users are responsible for the proper use of the accounts assigned to them under their login ID and authentication credentials. Users are also responsible for reporting any activities which they believe to be in violation of this policy, just as students are responsible for reporting Honor Code violations.

Use of these resources must be done:

- *In a manner consistent with the terms under which they were granted access*
- *In a way that respects the rights and privacy of other users; so as not to interfere with or violate the normal, appropriate use of these resources; and*
- *In a responsible manner and consistent with University policies and the workplace and educational environment.*

For faculty, staff, vendors, contractors, and other non-students, limited personal use of University issued computing resources is authorized so long as it does not impact University computers, network, or interfere with work related activities and is not prohibited by this or other University policies.

For students, personal activity is allowed as long as it does not interfere with other University computers or network bandwidth and is not prohibited by this or other University policies.

Systems Monitoring. This statement serves as notice to all users of campus computing resources that regular monitoring of system activities occurs and users should have no expectation of privacy while on the WFU network or computer systems. Only people engaged in supporting University computing resources are authorized to perform monitoring of systems and only for systems under their control.

Policy Violations. Suspected violation of this policy will be handled through the appropriate University process or office, such as administrative procedures, The Honor and Ethics Council, the Graduate Council, Dean's office, or Human Resources.

Violation of this policy may result in one or more of the following, in addition to any other actions deemed appropriate by the applicable authority:

- *Suspension of one's ability to perform interactive logins on relevant machines on campus.*
- *Suspension of one's ability to use the University's computing resources.*
- *Suspension of one's ability to send or receive email.*
- *Increased monitoring of further computer activity (beyond normal systems monitoring).*

Locating Computing Policy Information and Policy Updates. The above summary is based on the "Policy on Ethical and Responsible Use of Computing Resources". This policy and others may be updated and revised from time to time without prior notice.

Full policies can be reviewed online (https://is.wfu.edu/services/policies-and-standards/).

University Services

- Global Affairs
- Information Systems
- Libraries
- Student Health and Wellbeing
- Transportation and Parking Services
- University Police and Safety Services

Global Affairs

- Center for Global Programs & Studies (GPS)
- Center for Immigration Services & Support (ISS)
- Center for Research on Abroad and International Student Engagement (RAISE)

Center for Global Programs & Studies (GPS)

The Center for Global Programs and Studies (GPS) advances a global campus community and cultivates global mindsets through collaborative initiatives, programs, and services for the entire University. A complete list of programs and services offered by GPS is available here (http://global.wfu.edu).

Contact Information:
The Center for Global Programs and Studies
Reynolda Hall, Room 116
Phone: 336-758-5938

Global Abroad and Away

Global Abroad and Away (http://studyabroad.wfu.edu/) manages the extensive offerings of Wake Forest and Affiliate study abroad/away programs and provides advising to all students pursuing these academic opportunities. Other programs and services include:

- Study abroad/away scholarships (http://studyabroad.wfu.edu/funding/)
- Passport Assistance (https://studyabroad.wfu.edu/about-study-abroad/passports-and-visas/)
- Community-Based Global Learning (CBGL) programs (https://global.wfu.edu/staff/international-service/)
- Cross-Cultural Engagement (CCE) program (https://global.wfu.edu/global-abroad/cross-cultural-engagement/)
- Contemporary Global Studies Minor coordination and support (https://global.wfu.edu/global-campus/international-minors/)
- Global Trade and Commerce Studies Minor coordination and support (https://global.wfu.edu/global-campus/international-minors/global-trade-commerce-studies/)

Global Campus Programs

The Global Campus Programs (GCP) team is responsible for the planning, design, and implementation of programs focused on building a global campus community. The GCP team is both proactive and responsive to developing collaborative programming based on the needs of students, faculty, staff, and campus partners with the goal of enhancing global mindsets. Hallmark programs include the WISE Conference (https://global.wfu.edu/global-campus/wise-conference/) on intercultural skills enhancement for faculty/staff/students and Third-Culture Kid (TCK) monthly dinners for students who were raised in a multicultural family, U.S. citizens who grew up abroad or moved around the world due to a parent's career. Programming is open to any member of the WFU community.

Center for Immigration Services & Support (ISS)

The Center for Immigration Services & Support (ISS) (https://global.wfu.edu/iss/) provides visa processing and immigration support to international students, faculty, and staff during their time at Wake Forest University and beyond. ISS maintains compliance with immigration regulations and accurate reporting to several federal government agencies. The ISS team ensures Wake Forest University can continue to host international students, faculty, and staff on its campuses.

The ISS staff are the only Designated School Officials (DSO) and Alternate Responsible Officers (ARO) for Wake Forest University.

ISS organizes activities to build community and strengthen the sense of belonging for the international community. ISS also provides immigration information sessions and resources throughout the year to educate the campus on various processes and procedures.

The experts in ISS advocate for services that will enhance the experience of our international population on campus. You may contact ISS by email at iss@wfu.edu.

Center for Research on Abroad and International Student Engagement (RAISE)

The RAISE Center (https://raisecenter.wfu.edu/) seeks to understand and enhance the experiences, engagement, and development of abroad and international students. Composed of researchers across multiple institutions, the RAISE Center provides the following opportunities for WFU faculty, staff, and students to engage in research and practice in international education:

- Academic Research on Education Abroad (https://raisecenter.wfu.edu/projects/area-database/) (AREA) Database
- RAISE Center Publications (https://raisecenter.wfu.edu/resources/pubs/)
- Current and past projects (https://raisecenter.wfu.edu/projects/)
- The RAISE Center oversees the Undergraduate Richter Scholarship program (https://ureca.wfu.edu/student-resources/richter)
- Partnership with the leading academic journal *Frontiers: Interdisciplinary Journal of Study Abroad*

For more information, please contact raise@wfu.edu

Information Systems

The Office of Information Systems (https://is.wfu.edu/) (IS) provides modern technology services for the unique academic, research and administrative needs of Wake Forest University (WFU) students, faculty

and staff. The IS mission is to empower the WFU campus community in the use of information and digital technologies to further intellectual exploration, informed institutional decisions, and the creation and dissemination of knowledge. Driven by the core values of innovation, collaboration, and leadership, IS partners with the campus community to discover effective technology solutions which support Wake Forest as a vibrant place of learning and discovery.

Wake Forest employs a single sign-on approach for most university systems and logins. When a student is enrolled, and for the duration of their studies, they are provided with an @wfu.edu student account which provides access to Wake Forest's Google Workspace environment (WFU Mail, Docs, Sheets, Forms, Chat, Slides, Calendar and more), software licensing (http://software.wfu.edu) including Microsoft365 and Adobe Creative Cloud apps (Adobe Photoshop, Illustrator, InDesign, Premiere), the Workday student information system (advising, registration, degree planning and financial aid), Canvas and other instructional systems, and many other campus administrative sites and services. A self-service platform for password activation, resets and other needs for the WFU account is provided at account.wfu.edu (https://account.wfu.edu/pwm/public/).

For computing, most Wake Forest students, faculty and staff favor laptops for flexibility and mobility. The campus wireless network is likewise extensive and carefully maintained. Coverage extends to most buildings on campus, as well as numerous outdoor spaces (https://help.wfu.edu/support/solutions/articles/13000199161-outdoor-wireless-on-reynolda-campus) to support learning and work in the natural surroundings. Through its designation as an eduroam partner site (https://incommon.org/eduroam/eduroam-u-s-locator-map/), Wake Forest extends connectivity to thousands of university and other partner campus networks nation- and worldwide.

The Bridge IT support desk (https://is.wfu.edu/services/service-desk/) provides walk-in technology support for the campus community and is centrally located in the ZSR library. In addition to general IT consultation, support and guidance, The Bridge is also an authorized Apple, Dell, Lenovo ThinkPad, and Microsoft Surface service center. The Bridge offers flexible routes for seeking IT help, with extended walk-in hours, chat support, phone support (758-HELP), and a knowledge library of IT solution articles (https://help.wfu.edu/) supported by a helpful AI chatbot, (http://is.wfu.edu/deacbot) after-hours.

The One Button Studio (https://is.wfu.edu/one-button-studio/) at Wake Forest University is an automated, student-focused recording facility designed to simplify high-quality video production. Located in the Z. Smith Reynolds Library and part of the Studio: A Space for Digital Innovation (https://thestudio.wfu.edu/), the One Button Studio features professional lighting, a camera, and a microphone that activate automatically when a users inserts a USB drive. By simply pressing a single button, students and faculty can record presentations, lectures, or podcasts directly to their own drives as video or audio files. The space is equipped with a versatile backdrop for chroma keying and is supported by a suite of Adobe post-production tools, make it an accessible resource for creating professional academic content without requiring advanced technical expertise.

Located in the hear of the Z. Smith Reynolds Library, the Studio: A Space for Digital Innovation (https://thestudio.wfu.edu/) provides the Wake Forest Community with a centralized space for creating digital projects. Sponsored by Information Systems, the facility offers access to specialized equipment, software, and hands-on workshops designed to help students, faculty and staff develop technical skills and consider the implications of new technologies. Whether through one-on-one consultations or collaborative partnerships, the Studio supports the entire creative process-from initial project design to the production of public-facing digital work.

To support their studies and modern campus needs, all Wake Forest undergraduate students are required to have a laptop meeting core minimum requirements (https://help.wfu.edu/support/solutions/articles/13000010300-bring-your-own-device-byod-requirements). While some students bring their own laptop, many opt to purchase through the University's WakeWare (http://wakeware.wfu.edu/) official laptop program. WakeWare laptops include full on-campus repairs onsite at The Bridge (https://is.wfu.edu/services/service-desk/) and four years of extended warranty and damage protection. During times of repair, loaners are provided to students to minimize disruption to their studies. Undergraduate students receiving institutional aid qualify for a technology grant to cover the full cost of a WakeWare standard model, Windows or Mac, and have two years to redeem their grant.

Digital Accessibility is prioritized through Wake's Technology Accessibility Program, led and facilitated by Information Systems. In addition to guiding the campus community with awareness and best practices, the program conducts accessibility reviews for University software purchases and promotes the accessibility of digital resources through partnerships and advocacy efforts within and beyond campus.

For some academic programs and courses, students learn necessary skills in powerful software programs such as AutoCAD and COMSOL. Access to these applications is provided to students in a virtualized desktop environment. For advanced processing needs, such as some modeling or analytics exercises, students have access to the WFU Distributed Environment for Academic Computing (DEAC) cluster (https://is.wfu.edu/high-performance-computing/), a Linux-based High Performance Computing cluster. The DEAC cluster provides supercomputing services for academic research and coursework and are available to students 24 hours a day through connections over the campus network.

Wake Forest uses the mobile-friendly Workday Student platform to support core student information system functions across the academic journey. The modern, integrated system helps students navigate enrollment, advising, registration, student financials, and academic records with a consistent experience across devices. The Workday mobile app is a key part of this approach, giving students an accessible way to complete tasks, receive notifications, and stay connected to important academic information throughout the year.

The Wake Forest WakerSpace (https://wakerspace.wfu.edu/) is a student-staffed maker facility for student skill-building, creativity and making. Students have access to explore various maker and creative projects using 3D printers, laser cutters, woodworking, soldering, podcasting, knitting, and sewing, with workshops and interest groups holding sessions in the space throughout the year. With academic and extra-curricular programming, and with a creative community of students, faculty and staff alike, the WakerSpace serves a broad range of interests across campus.

Students have access to IS-supported cable television and streaming services. (https://is.wfu.edu/services/stream2/) Every residence hall room includes a cable TV connection or the ability to stream cable programming. Whether on campus or away from campus, students can watch scheduled and on-demand cable network content, view campus

information channels, and use built-in recording storage available to each account.

Many students also bring gaming consoles, smart TVs, and other entertainment devices. These devices can connect to the Internet through a wired Ethernet connection or through WFUmydevices, a dedicated wireless network designed for non-standard devices that cannot use eduroam. Students can register their devices through the MyDevices portal, which provides a simple way to manage and connect approved equipment.

Wake Forest cybersecurity strategy (https://infosec.wfu.edu) is multi-pronged, with technical controls, policy (https://policy.wfu.edu/) and community awareness layers. Campus awareness and guidance around good cybersecurity practices are prioritized in annual programming. An annual student-focused cybersecurity awareness month, required faculty and staff training, as well as outreach and workshops targeted for unique needs of campus audiences all seek to increase campus awareness and efficacy in good information security practices.

Numerous student employment opportunities are available to students with an interest in technology and higher education, and IS offers positions for a variety of interests including technology support, digital literacy and the WakerSpace. IS consults a student advisory body regularly to seek guidance on various initiatives.

Students also have access to additional computing resources outside the University. Wake Forest is a member of:

- The Inter-University Consortium for Political and Social Research (ICPSR) (https://www.icpsr.umich.edu/web/pages/), located at the University of Michigan. Membership in ICPSR provides students and faculty with access to a large library of data files, including public opinion surveys, cross-cultural data, financial data, and complete census data.
- EDUCAUSE (https://educause.edu), a national consortium of colleges and universities engaged in furthering the role of technology and computing in higher education.
- Eduroam, a global wireless network access service, available on thousands of partner campuses (https://incommon.org/eduroam/eduroam-u-s-locator-map/) for research and education, accessed using one's home institution credentials (WFU account login).

Libraries

Overview

The libraries of Wake Forest University support instruction and research at the undergraduate level and in the disciplines awarding graduate degrees. The libraries of the University hold membership in the Association of Southeastern Research Libraries and HathiTrust.

The Wake Forest University libraries include: the Z. Smith Reynolds (ZSR) Library (https://zsr.wfu.edu/), located on the Reynolda Campus, supporting the undergraduate College, the Wake Forest School of Business, the Graduate School of Arts and Sciences, the School of Divinity, and the School of Professional Studies; the Law Library (http://library.law.wfu.edu/), housed in the Worrell Professional Center on the Reynolda Campus, serving the School of Law; and the Coy C. Carpenter Library (https://school.wakehealth.edu/Carpenter-Library) serving the Wake Forest School of Medicine and is located on the Bowman Gray Campus.

Collections

The three library collections total over 3.5 million titles, including over 2.6 million e-books, more than 190,000 electronic journals and over 220,000 streaming audio and video titles. The Law Library holds over 125,000 volumes and the Coy C. Carpenter Library holds over 30,000 volumes. The ZSR Library and the Law Library serve as selective federal depositories as a part of the Federal Depository Library Program. The three libraries share an online catalog, which provides access to books, electronic resources, journals, databases, and more. Through our interlibrary loan service (https://zsr.wfu.edu/delivers/ill/), students, faculty and staff may obtain materials from other libraries at no charge.

Z. Smith Reynolds Library

The Z. Smith Reynolds Library (ZSR) provides comprehensive reference and research services (https://zsr.wfu.edu/research/) in-person and online. Research Librarians work with individual classes across the disciplines on research projects and library users can request personal research sessions (https://zsr.wfu.edu/research/support/sessions/) with Research Librarians at all phases of their research process. Library faculty also teach elective courses in the fundamentals of research and information literacy and upper-level courses geared towards research in the disciplines and special topics in information. The Digital Initiatives & Scholarly Communication (https://zsr.wfu.edu/digital-scholarship/) librarians support faculty scholarship and student digital project coursework through consulting and instruction on tools, methodologies, project management, digital publishing, open education, data management, copyright, and open access. Reference (https://zsr.wfu.edu/research/support/) and online chat (https://zsr.wfu.edu/chat/) are available to help library users find resources and research assistance.

Special Collections & Archives (SCA) (https://zsr.wfu.edu/special/about/) serves as a research repository for rare, unique, and primary source materials in the Z. Smith Reynolds Library, including nearly 80,000 volumes and 15,000 linear ft. of collections. SCA acquires, preserves, and provides access to a wide range of primary research materials in their original formats, and in particular, seeks to better document underrepresented communities on campus. Major collections include the Baptist Historical Collection of North Carolina, Manuscripts, the Rare Book Collection, and the University Archives (https://zsr.wfu.edu/special/collections/archives/). SCA has a major outreach program offering events and presentations and also frequently hosts Wake Forest faculty and their classes. All are welcome to use the collections, a selection of which are available online in SCA Digital Collections (https://zsr.wfu.edu/special/collections/digital/), which currently numbers over 291,000 items. Please contact archives@wfu.edu for access to the collections by appointment or to submit a specific question.

Spaces

The Z. Smith Reynolds library has group study rooms equipped with large screen monitors and individual study carrels that can be booked online (https://wfu.libcal.com/reserve/). Windows PCs, Macintosh computers, and media viewing stations are available. Multimedia equipment, Chromebooks, tablets, and other devices may be reserved for checkout (https://zsr.wfu.edu/technology/equipment/). ZSR also offers a wide variety of accessories (https://zsr.wfu.edu/access/peripherals/), peripherals, and wellness items (https://zsr.wfu.edu/access/wellness-collection/) that students can borrow on a first-come, first-served basis. The library has a 118-seat auditorium that is available to Wake Forest community groups for programs, lectures, and film screenings.

ZSR houses The Bridge Service Desk (https://is.wfu.edu/services/service-desk/), The Studio (https://thestudio.wfu.edu/), the Center for the Advancement of Teaching (https://cat.wfu.edu/), the Office of Online Education (https://oe.wfu.edu/), CLASS Testing Center (https://class.wfu.edu/test-proctoring/), and The Writing Center (http://writingcenter.wfu.edu/). The Bridge provides hardware and software support for WFU students, faculty, and staff. The Studio provides resources and consultations to create digital projects. The Center for the Advancement of Teaching is a resource center for Wake Forest faculty at all stages of their careers. The Office of Online Education is a resource for faculty interested in designing and delivering online learning experiences in the courses they teach. The CLASS Testing Center provides a testing environment for students with approved disability accommodations. The Writing Center provides help to guide students through their writing process.

Access

ZSR Library is committed to creating an accessible, enriching, and welcoming community space for all. The library's hours vary by semester and can be found at https://zsr.wfu.edu/calendar/. Several large spaces are available via WFU Deacon OneCard entry even when the library is closed. These include over 200 seats of open study, reservable study rooms, vending machines, printers/copiers/scanners, and the library's bank of touchless smart lockers for pickup of requested materials. The Library also houses Smith's Cafe (https://dining.wfu.edu/locations/smithscafe-zsr-library/), our coffee shop. Check out the hours and events calendar (https://zsr.wfu.edu/calendar/) to stay up to date. See a full description of the ZSR Library resources and services at zsr.wfu.edu (https://zsr.wfu.edu/).

Bowman Gray Campus and Innovation Quarter

All faculty, staff and students in the Wake Forest University Graduate School of Arts and Sciences have full and unrestricted access to the Coy C. Carpenter Library of Wake Forest School of Medicine at its main facility on the first floor of the Gray Building. The Library is centrally located within the Wake Forest-affiliated hospital (Atrium Health Wake Forest Baptist Medical Center), and most of the resources are available online.

Student Health and Wellbeing

- Campus Recreation
- CARE Team
- Center for Learning, Access, and Student Success
- Deacon Health
- Office of the Chaplain
- Office of Wellbeing
- University Counseling Center

Campus Recreation

Campus Recreation

The Office of Campus Recreation seeks to enrich the quality of life for students, faculty, and staff by providing a broad program of sports, outdoor, and fitness activities for men and women of all ability levels. Such programs include intramural sports, club sports, Outdoor Pursuits, open recreation, group fitness, and personal training. Campus Recreation is also responsible for managing the Miller Fitness Center and all of the activities within Reynolds Gymnasium. Campus Recreation provides a healthy outlet for every student, and a convenient option for every staff and faculty member in a safe place where the whole person is central each and every day. In support of the gym and the University's extensive wellbeing center facilities, the University is introducing wellness center membership fees for some community members starting September 1. The wellness fee for full-time, Reynolda campus students will be $150 per semester. Graduate students may opt to have the fee waived online through the Wake Information System (WIN). Graduate students who elect to opt out of the wellness fee will not have access to campus wellness, recreation and fitness facilities, equipment and related programs, including intramural sports and club sports.

The spouses and live-in partners of Wake Forest University students who have a wellness membership may purchase their own wellness center membership through Campus Recreation.

The Miller Fitness Center houses Campus Recreation's one large group fitness studio. The fitness studio is located on the 4th floor. The Miller Center has two gender-specific locker rooms, each has 12 day-use only lockers and one shower available.

Reynolds Gymnasium is the home of Campus Recreation as well as the Office of Wellbeing, Deacon Health, and the Varsity Athletics Gym. The newly renovated state of the art facility includes the following: Welcome Lobby Desk, Living Room lounge space, Indoor Swimming Pool and Whirlpool, Classrooms, 2 Multipurpose Activity Courts (MAC) with dasher boards and goals, Bouldering and Climbing Wall, 5 Cardio and Strength Training Fitness Spaces, and Locker Rooms.

The Sutton Center is an expansion of Reynolds Gymnasium. Opened in January, 2016 this expansion includes: two full sized gymnasiums with state of the art sound systems, Outdoor Pursuits retail and rental center, Two connector atriums with an abundance of natural light, digital signage, and lounge areas for student interactions. The gymnasiums are lined to accommodate basketball, volleyball and badminton but can be transformed to host receptions, unique competitions and other university & community events.

Intramural sports are competitions between students, faculty, and staff. With undergraduates and graduate students participating every year, competitive games of all levels are offered.

CARE Team

CARE Team

The Campus Assessment, Response, and Evaluation (CARE) Team specializes in listening, responding, and connecting. Members follow up with referred individuals to hear their stories, identify their needs, and connect them with the resources and interventions that best suit their individual circumstances and our community at large. We care about our fellow Deacons and want to ensure their safety, wellbeing, and success by providing this additional support.

In addition, the CARE Team also educates the campus community about how to identify distressing or concerning behaviors and how to promptly report those worries. To learn more about our community education opportunities available for student groups, faculty departments, or staff offices, visit the We Are Wake (https://we.wfu.edu) website.

The CARE Team is designed to facilitate the identification and management of, but not limited to, behaviors, stressors, and mental health concerns. These concerns may present special challenges to University students and the campus community, including faculty

and staff, which may disrupt, impede, or interfere with the day-to-day functions of the identified student, community member, or the University. The CARE Team can follow up (directly or indirectly) with the persons who display behaviors of concern and connect them with appropriate resources as warranted.

The Team is composed of representatives from throughout the University who have specific expertise and professional training in assessing and intervening with individuals whose behaviors, current stressors, and general wellbeing need additional care and support.

The CARE Team is not tasked with responding to emergencies. If this is an emergency and you are in need of immediate assistance or consultation, contact WFU Police at 336.758.5911 or 911 from a campus phone.

CARE Team Contact Information:
Email (CARE@wfu.edu)
Website (http://we.wfu.edu)
CARE Team Case Manager – 336.758.CARE (2273)

Center for Learning, Access, and Student Success

Wake Forest is an equal access institution that admits qualified applicants without regard to disability. When a student with a disability is admitted, the University seeks to accommodate those needs that are determined to be reasonable and that do not compromise the integrity of the curriculum.

The Center for Learning, Access, and Student Success (CLASS) provides academic coaching and support for academic success as well as support for students seeking disability-related academic accommodations.

Students with a disability who require accommodations should follow the steps outlined on the Center for Learning, Access, and Student Success website using this link to the Student Disability Accommodations process (https://class.wfu.edu/student-disability-services/student-accommodations/).

Any student who is interested in academic support is encouraged to reach out to the CLASS office by email (class@wfu.edu) or by visiting the office (118 Reynolda Hall).

Deacon Health

Deacon Health

The mission of Deacon Health (DH) is to ***promote and advance the health and wellbeing for all students***. A physician-directed medical staff offers primary care services, urgent care, illness care, physical examinations, counseling, limited psychiatric care, allergy injections, immunizations, radiology, gynecological services, pharmacy, laboratory, sports medicine clinic, referral to specialists, and medical information and vaccinations related to travel to international destinations.

Deacon Health Portal

Students can schedule most appointments online through the Deacon Health Portal (https://wfu.studenthealthportal.com/PyramedPortal/). The portal serves as a secure place to make appointments, view published labs, print off a copy of your immunization history on file, print receipts, and securely communicate with our clinic. Notifications of appointment reminders and secure messages from the clinic will be sent to your WFU email address. Students should book an appointment before coming to our clinic either through the Deacon Health Portal, or by contacting us at apptshs@wfu.edu or 336.758.5218. There will be a wait to see a medical provider if you come into the clinic without an appointment.

Medical Charges

For full-time Reynolda Campus students, there is no additional cost to be seen at Deacon Health. However, there may be some additional costs for specific treatments, labs, supplies and prescriptions unless you are on the Student Health Insurance Plan (Student Blue (https://shi.wfu.edu/)). Part-time students will be responsible for any charges incurred. In addition, there are discounted "fee-for-service" charges for medications, laboratory tests, observation care, procedures, and some supplies. Payment can be made via check, Deacon OneCard, Student Blue Insurance (https://shi.wfu.edu/), or the charge can be transferred to the student's account in Office of Financial and Accounting Services. Each student is given a copy of the medical charges incurred on the date of service which can be used for insurance filing. DH does not participate in nor file insurance claims on behalf of the patient.

Radiology

Through a partnership with Atrium Health/Wake Forest Baptist, DH offers on site X-rays. Through this arrangement, Atrium Health, Wake Forest Baptist will be able to bill your medical insurance for these services. All billing will be handled by Atrium Health/Wake Forest Baptist and the remaining portion after your insurance processes the claim will be your responsibility.

Confidentiality

Student medical records are confidential. Medical records and information contained in the records may be shared with therapists and physicians who are involved in the student's care, and otherwise will not be released without the student's permission except as allowed by law. Students who wish to have their medical records or information released to other parties should complete a release of information form at the time of each office visit or service.

Class Excuses

The faculty is responsible for excusing students from class. Consequently, DH does not issue excuse notes for students. Students who are evaluated at DH are encouraged to discuss their situations with their professors. A receipt documenting visits is available through the portal. Students may grant permission for Deacon Health to communicate to the Office of Academic Advising when prolonged illness or hospitalization occurs.

Student Insurance Program

Health insurance is required as a condition of enrollment for all degree-seeking* students at Wake Forest University. Students who demonstrate comparable coverage to WFU's health insurance plan and meet our criteria may waive the coverage provided by WFU. *Specific information about the policy plan, process instructions and full information regarding eligibility can be found at shi.wfu.edu (https://shi.wfu.edu/).

Severe Weather

When the University is closed due to severe weather, DH may have limited staff and may be able to provide care only for injuries and urgent illnesses. Appointments may be rescheduled.

Retention of Medical Records

Student medical records are retained for 10 years after the last treatment, after which time they are destroyed. Immunization records are kept longer.

* For full-time Reynolda Campus students, there is no additional cost to be seen at Deacon Health. However, there may be some additional costs for specific treatments, labs, supplies and prescriptions unless you are on the Student Health Insurance Plan (Student Blue (https://shi.wfu.edu/)). Part-time students will be responsible for any charges incurred.

Deacon Health Information and Immunization Form

All new undergraduate and graduate students are required to be up to date with required vaccines. You and your healthcare physician need to complete the health information and immunization forms (HIIF) available in your Deacon Health Portal (https://wfu.studenthealthportal.com/PyramedPortal/). For steps to upload your documentation visit the Deacon Health website (https://deaconhealth.wfu.edu/new-students/immunization-requirements/#20230414143115).

Immunization Policy

North Carolina State Law (G.S. 130A-152) and Wake Forest University policy require documentation of certain immunizations for students attending Wake Forest. Students must submit certification of the immunizations set forth below or request and receive approval for a medical or religious exemption **PRIOR TO REGISTRATION**.

The statute applies to all students except the following:
Students residing off-campus and registering for any combination of:

- Off-campus courses
- Evening courses (classes beginning after 5 p.m.)
- Weekend courses
- No more than four day credit hours in on-campus courses

Read the complete immunization policy on the Deacon Health website (https://deaconhealth.wfu.edu/new-students/immunization-requirements/).

Office of the Chaplain

The Office of the Chaplain seeks to support a diversity of beliefs through the multifaith character of the chaplaincy and its relationship to 22 religious life professionals and related student orgnaizations. The office acknowledges the importance of faith, both in our individual and collective lives, and strives to provide opportunities for members of the Wake Forest community to express and explore their faith in a supportive community. The core work of chaplaincy is rooted in the care of the whole person – body, soul and spirit. As such, a key aspect of our office is to make available pastoral care and advisement for any member of the Wake Forest community – students, staff, faculty, and alumni. This can happen through individual counsel, programming on critical spiritual themes, intervention in medical emergencies, mortality concerns and presiding at key life rituals.

The University Chaplains and Religious Life Professionals are available for pastoral counseling on a variety of issues. If ongoing counseling is deemed appropriate, referrals to clinically trained therapists in the University Counseling Center may be made.

Chaplains and Religious Life Professionals also offer spiritual direction or guidance to members of the Wake Forest community seeking to discern God's call in the midst of everyday life and assistance to persons wishing to grow closer to God through disciplines such as prayer, spiritual reading, and meditation.

Location: Suite 8 Reynolda Hall
Phone: 336.758.5210

Office of Wellbeing

Office of Wellbeing

Thrive is a campus-wide initiative – owned by every member of the Wake Forest University community. The Office of Wellbeing leads the campus in making wellbeing a part of every experience in the lives of our students, faculty, and staff. Wellbeing is about much more than physical health. It includes the eight dimensions of wellbeing - emotional, environmental, financial, intellectual, occupational, physical, social, and spiritual.

Wake Forest created Thrive to give students, faculty, and staff, the skills, knowledge, and perspective to maintain a healthy, balanced life. Programs include monthly focus on specific dimensions, bystander interventions, dimension champion awards, Gold Apron cooking, WFU Certified Peer Education Program, mindfulness resources, Signs of Stress, and many other initiatives.

University Counseling Center

University Counseling Center

The University Counseling Center, located in 118 Reynolda Hall (Reynolda Campus), provides short-term, time limited counseling and consultation to currently enrolled Reynolda Campus students. All services are confidential, and no fees are charged to students. The Center offers counseling for a variety of concerns including depression, anxiety, personal adjustment, disordered eating, managing stress, sexuality, and relationship issues. The Center is open Monday-Friday from 8:30 a.m. to 5 p.m. (excluding holidays). For more information or to schedule an appointment, call the center at 336.758.5273. More information is also available online (http://counselingcenter.wfu.edu). For life-threatening emergencies call 911 from a campus phone or 336.758.5911.

Transportation and Parking Services

Motor Vehicle Registration and Fees

Anyone affiliated with the university as faculty, staff or student and wishes to park a vehicle in a university parking lot at any time of day or night, including after 4:00 p.m. weekdays, on weekends and during academic breaks, must register that vehicle with the Transportation and Parking Services office. Alumni and visitors coming to WFU more than once need to register their vehicle. For registration purposes, students, faculty, staff and alumni are defined as:

Student – Anyone enrolled in any class or program at Wake Forest University, including study-abroad programs. Unless formally withdrawn or graduated from the university, students are considered an active student.

Faculty – Assigned teaching responsibilities at Wake Forest University (Does not include students who are teaching assistants).

Staff – Non-faculty Wake Forest employee contracted to work on campus.

Alumni – Graduated from WFU and is not enrolled in a graduate program

All student and employee parking permits are now electronic. Permits are not transferable from person to person.

A person may be asked to relinquish a permit due to a change in the permit holder's role at WFU or due to misuse of the permit.

Parking Options

- First-year students are required to register their vehicle and park off campus in Lot Z5 in the designated area.
- Sophomore students are required to register their vehicle and park off campus in Lot Z2, which is located on the north side of Polo Rd. Parking in the sophomore parking lot (Z2) is limited.
- Junior and senior resident students are required to register their vehicle.
- Commuting upper-class students are required to register their vehicle and have the options to park on campus (on-campus commuter permits are limited and sold on a first-come first-serve basis), off campus lots (Z3 and Z4). Commuting upper-class students may also purchase an evening only permit. A waitlist will be available, if/when the on-campus or off-campus commuter permits sell out. If Transportation and Parking Services determines space is available in either of these areas, additional permits may be offered to those on the waitlist. Students are encouraged to register for a permit, even if on the waitlist. There is no guarantee the waitlist will be honored.
- The evening parking permit is available to those who ride the shuttle to campus from apartment complexes or students who otherwise reside in off-campus housing and walk or bike to campus between 8:00 a.m. and 4:00 p.m., Monday-Friday.

Fees for parking options can be found online (https://parking.wfu.edu/parking-info/student-parking-information/) during the vehicle registration process. All permits can be ordered online (https://wfuparking.t2hosted.com/Account/Portal).

Fines are assessed for violating parking regulations and range from $25 to $250. Visitors are subject to all parking rules and regulations (https://parking.wfu.edu/policies-procedures-forms/). Students are responsible for their visitors. Students will be held financially responsible for citation fines issued to vehicles driven by family members or by friends who use a Wake Forest student's vehicle. Visitors who plan to park on campus for more than one day require a visitor parking pass. Visitor parking passes can be requested via email to the Transportation and Parking Services office.

The Transportation and Parking Services office is located in Alumni Hall, Suite 138. Office hours are 8:30 a.m. to 4:30 p.m., Monday through Thursday and 8:30 a.m. and 3:00 p.m. on Friday.

For more information call 336-758-PARK or email (parking@wfu.edu).

Alternative Transportation

Wake Forest Transportation and Parking Services adopted an app that it encourages all shuttle riders to download and begin using immediately. The app, Passio GO, is designed to make the shuttle service more convenient for all riders. More information about our shuttles can be found online (https://parking.wfu.edu/ride-the-wake/).

Bicycle

To register your bicycle, go here (https://parking.wfu.edu/alternative-modes-transportation/bicycle-resources/).

Zipcar

Wake Forest offers a car-sharing program as an alternative to bringing your own car to campus. Zipcars are an affordable option that are available by the hour or by the day. Cars are parked on campus near the first-year residence halls.

University Police and Safety Services

University Police

To report an emergency dial 911 (on-campus phone) or 336.758.5911.

The Student's Right-to-Know and Campus Security Act requires institutions of higher learning to issue an annual report describing campus security procedures, facilities, policies, crime prevention programs, statistics, and other information. The purpose of the report is to give individuals in the University community the information they need for their personal safety and security while on campus. A copy of this annual report is available online at www.wfu.edu/police (http://www.wfu.edu/police). For further information regarding this policy, please call 336.758.3567.

Safety Services

If a safety escort is required after 3 a.m., one can be provided by calling University Police at 336.758.5911, calling 911 from a campus telephone, or utilizing one of the "call-box" telephones found around campus. The safety escort service is provided by either a police officer in a patrol car or a walking security officer. The timeliness of a safety escort's arrival is dependent on the availability of personnel and the number of high-priority calls to which they may already be committed.

Persons requiring ADA assistance or other special transportation needs that prohibit them from using one of the regular shuttle stops should call University Police at 336.758.5911 (ext. 911 on campus) for alternate arrangements.

Wake Forest University provides a safety app, powered by LiveSafe that can be downloaded to your phone or tablet. LiveSafe is a free personal mobile application for Wake Forest University students, staff, and faculty to engage in a two-way conversation with WFU police. With LiveSafe, you can use your cell phone as a personal security device that allows direct access to police, 911 emergency services, emergency location sharing, information sharing with quick tips, and a peer-to-peer SafeWalk tool. Registration with a Wake Forest University email address is encouraged.

Features:
Summon Help – Trigger 911 or the WFU Police Department with the press of a button. Based on your cell phone signal and if your location services is enabled a GPS locator is activated during your call.

SafeWalk (a peer-to-peer tool) – Invite friends and family to temporarily follow your location on a real-time map. They will see your approximate location as you walk to your destination and will know when you get there safely.

Share information – Submit tips or reports about campus safety concerns and live chat with campus safety officials. You can attach a picture, video, or audio and even send it anonymously if you choose.

Access Campus Resources and Emergency Information – Access campus resources, emergency information, and important phone numbers.

Governing and Advisory Boards

The Board of Trustees

**Effective as of July 1, 2026*

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Wake Forest College Board of Visitors

Chairperson: Cathy LoDuca, *Briarcliff Manor, NY*

Terms Expiring June 30, 2027

Beth C. Becton, *Augusta, GA*
Andrew G. Blaisdell, *Atlanta, GA*
Michelle Cruz Peverley, *Boston, MA*
Kevin E. Felder, *Columbia, SC*
Will Giraud, *Houston, TX*
Dave Greenfield, *Pittsburgh, PA*
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Rhoda Juckett, *Charlotte, NC*
Andrew Lawrence, *McLean, VA*
Christopher Leonard, *Fort Lauderdale, FL*
Laura Leonard, *Fort Lauderdale, FL*
Marc Miller, *Winston Salem, NC*
Lorraine Ospina-Herrera, *Coral Gables, FL*
Tish Turner, *Raleigh, NC*
Kara Van Duzee, *Dallas, TX*
Richard Ward, *Naples, FL*
Alex Wilson, *Raleigh, NC*
Matt Womble, *Palm Beach, FL*

Terms Expiring June 30, 2028

Elizabeth Carlson, *Brooklyn, NY*
Martha Clinkscales, *Atlanta, GA*
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Todd Holleman, *New York, NY*
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Emily Sharko, *White Plains, NY*
Jamey Spencer, *Berkeley, CA*
Darren Sylvia, *Vero Beach, FL*
David Vega, *Decatur, GA*

Terms Expiring June 30, 2029

Carol Adams, *Winston Salem, NC*
Kit Addleman, *Dallas, TX*
Bob Brady, *Wilmington, DE*
Jennifer Brady, *Wilmington, DE*

Rollie Bauer, *Silver Lake, OH*
Eric Braun, *Portsmouth, OH*
Bridget Chisholm, *Greensboro, NC*
Keith Forkin, *Wilmington, NC*
Donna Gaut, *Houston, TX*
Robert Getz, *Greenwich, CT*
Ann Harrell, *Jacksonville, FL*
Melissa Hawks, *Greenwich, CT*
Kate Maloney, *Old Greenwich, CT*
Andrew Martin, *Charlotte, NC*
Mike McKinley, *Brooklyn, NY*
Sydney Packard, *New York, NY*
Margaret Pike, *Winston Salem, NC*
Mike Simons, *Charlotte, NC*
Tina Thornton, *Burlington, CT*
Mary Wallace, *Houston, TX*
David Zug, *Chestnut Hill, MA*

Wake Forest University School of Business Board of Visitors

Chairperson: Ann A. Johnston, *Winston Salem, NC* and C. "Jeff" Triplette ('73) *Oxfrod, MS*

Terms expiring June 30, 2027

Piyush Agrawal, *Toronto, ON*
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Susan Benz, *New York, NY*
Stephen R. Brennan Jr., *Flourtown, PA*
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Carmine Di Sibio, *New York, NY*
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John Miller IV, *New York, NY*
Phillip Neugebauer, *Fairfield, CT*
Mark Owens, *Winston Salem, NC*
Mitchell Perry, *Durham, NC*
Robert Burnie Stenhouse III, *Corte Madera, CA*
Jason Strife, *Charlotte, NC*
Darren Thompson, *Scottsdale, AZ*
W. "Howard" Upchurch Jr., *Winston Salem, NC*

Terms expiring June 30, 2028

Nevin Chitkara, *Westwood, MA*
Bernard DiSantis, *Sewickley, PA*
Ann (Aultman) Johnston, *Winston Salem, NC*
Caroline (Ginman) Limehouse, *Atlanta, GA*
Andrea Malik Roe, *Atlanta, GA*
Roderick Parrish, *Raleigh, NC*
Scott Purviance, *Charlotte, NC*
Alexander Team, *Winston Salem, NC*
C. "Jeff" Triplette, *Oxford, MS*
Yunhao Wang, *Hong Kong, China*
Gregory Wessling, *Cornelius, NC*
Eric Wiseman, *Greensboro, NC*

Lifetime Member

Janice W. Calloway, Dallas, TX

Wake Forest University School of Divinity Board of Visitors

Chairperson: Mark Holt, *Raleigh, NC*

Terms expiring June 30, 2027

Kellie J. Browne, *Winston-Salem, NC*
Molly Brummett Wudel, *Durham, NC*
Amber T. Harris, *Winston-Salem, NC*
Richard T. Howerton III, *Winston-Salem, NC*
Paul Jeanes III, *Princeton, NJ*
A. Maria Nkonge Mugweru, *Chapel Hill, NC*
Timothy Peoples, *Dallas, TX*
George Redd, *Winston-Salem, NC*
M. Gray Styers, *Greensboro, NC*

Terms expiring June 30, 2028

Darryl W. Aaron, *Greensboro, NC*
Cassandra M. Baker, *Macon, NC*
Jerry H. Baker, *Macon, NC*
Shelmer D. Blackburn Jr., *Purlear, NC*
Alan P. Sherouse, *Greensboro, NC*

Life Member

George Williamson, *Katonah, NY*

Wake Forest ZSR Library Board of Visitors

Chairpersons: Bruce Summers, *Annandale, VA*
Mary Summers, *Annandale, VA*

Vice Chairperson: Sophie Farrara, *Atlanta, GA*

Terms Expiring June 30, 2027

David Bates, *Palm City, FL*
Dan Brienza, *Waxhaw, NC*
Jeff Hogg, *Winston Salem, NC*
Ken Johnson, *Winston Salem, NC*
Brian Lawrence, *Coral Gables, FL*
Marilu Madrigal, *Coral Gables, FL*

Terms Expiring June 30, 2028

Barry Clendenin, *Herndon, VA*
Danielle Coe, *Atlanta, GA*
Steve Duin, Lake *Oswego, OR*
Claire Gladding, *Winston Salem, NC*
Betsy Painter, *Hoboken, NJ*
McFall Pearce, *Winston Salem, NC*
Sarah Pearce, *Winston Salem, NC*
Chris Sears, *Atlanta, GA*

Terms Expiring June 30, 2029

Gordon Cromwell, *Chestnut Hill, MA*
Wendy Cromwell, *Chestnut Hill, MA*

The Administration

Administration reflects leadership as of July 1, 2026. Year following name indicates year of hire.

Administration - Wake Forest University Cabinet

Peter Rodriguez (2026)
President
BS, Texas A&M University; MA, PhD, Princeton University

Ebony Boulware (2023)
Dean of the Wake Forest University School of Medicine, Chief Science Officer and Vice Chief Academic Officer of Advocate Health
BA English, Vassar College; MD, Duke University School of Medicine; MPH, Johns Hopkins Bloomberg School of Public Health

Ashleigh Brock (2021)
Chief of Staff, President's Office
BA, University of Richmond; MA, Michigan State University; PhD, The College of William and Mary

Andrew R. Chan (2009)
Vice President, Personal and Career Development
BA, MBA, Stanford University

John Currie (2019)
Vice President & Director of Athletics
BA, Wake Forest University; MS, University of Tennessee

James J. Dunn (2009)
Special Assistant to the President & CEO, Verger Capital Management, LLC
BS, Villanova University

Brett Eaton (2011)
Vice President and Chief Communications Officer
BA, Clemson University; MPA, MA, American University

Paula Gentius (2024)
Secretary of the Board of Trustees and Director of the Board Office
BA, Hampton University; MA, Ohio University; JD, University of Detroit Mercy School of Law; PhD, Hampton University

Craig M. Greven
Interim Chief Executive Officer and President of Atrium Health Wake Forest Baptist
MD, Wake Forest University School of Medicine

Charles L. Iacovou (2001)
Dean, School of Professional Studies and Vice Provost, Charlotte Programs
BS, University of Vermont; PhD, University of British Columbia

Nell Jessup Newton (2025)
Interim Provost
BA, University of California, Berkeley; JD, University of California College of the Law, San Francisco

Shea Kidd Brown (2022)
Vice President for Campus Life
BA, University of Southern Mississippi; MA, University of Georgia; PhD, University of Memphis

Andrew R. Klein (2023)
Dean, School of Law
BA, University of Wisconsin; JD, Emory University School of Law

Jackie Krasas (2023)
Dean of the College and Graduate School of Arts & Sciences
BA, Lehigh University; MS, PhD, University of Southern California

Eric Maguire (2019)
Vice President for Enrollment
BA, Muhlenberg College; MS, Indiana University

Mark A. Petersen (2008)
Senior Vice President for University Advancement
BA, Brandeis University; MA, University of Southern California

Stacie Petter (2022)
Acting Dean, School of Business
BS, Berry College; MBA, PhD, Georgie State University

Lauren Pressley (2025)
Dean of the Z. Smith Reynolds Library
MLIS, University of North Carolina at Greensboro; BA, North Carolina State University

Jacqueline A. Travisano (2023)
Executive Vice President and Chief Financial Officer
BA, Robert Morris University; MBA, Chatham University; EdD, Nova Southeastern University

José Villalba (2011)
Vice President and Special Advisor to the President
BS, MEd, EdS, PhD, University of Florida

Corey D. B. Walker (2020)
Dean, School of Divinity; Wake Forest Professor of the Humanities; Director, Program in African American Studies
BS, Norfolk State University; MTS, Harvard University; MDiv, Virginia Union University; PhD, The College of William and Mary

Brian White (2023)
Vice President and General Counsel
BA, JD, University of Iowa

Provost

Nell Jessup Newton (2025)
Interim Provost
BA, University of California, Berkeley; JD, University of California College of the Law, San Francisco

Betsy Barre (2018)
Assistant Provost and Executive Director, Center for the Advancement of Teaching
BA, Bowling Green State University; MA, PhD, Florida State University

Philip G. Handwerk (2013)
Assistant Provost of Institutional Research
BA, Wake Forest University; MS, NC State University; PhD, University of Pennsylvania

Anne E. Hardcastle (2002)
Vice Provost for Academic Affairs and Associate Professor of Spanish
BA, Texas A&M University; MA, PhD, University of Virginia

J. Kline Harrison (1990)

Vice Provost for Global Affairs and Kemper Professor of Business
BS, University of Virginia; PhD, University of Maryland

Stephanie Hudson (2021)
Assistant Director, Provost Communications
BA, Wake Forest University

Kimberly McAllister (2024)
Vice Provost for Research, Scholarly Inquiry, and Creative Activity
BS, Davidson College; PhD, Duke University

Mary Muchane (2024)
Assistant Provost, Faculty Development
BS, University of Nairobi; MS, University of Sheffield; PhD, Duke University

Allison Perkins (2006)
Executive Director of Reynolda House, Associate Provost for Reynolda House and Reynolda Gardens
BA, Lake Forest College

Samantha Perrotta (2012)
Chief of Staff
BS, Wake Forest University

College

Jackie Krasas (2023)
Dean of the College and the Graduate School of Arts & Sciences
BA, Lehigh University; PhD, University of Southern California

Rebecca W. Alexander (2000)
Senior Associate Dean for Research and Community Engagement
BS, Delaware University; PhD, University of Pennsylvania

Jane H. Caldwell (1999)
Senior Associate Athletic Director; Assistant to the Dean of the College, Student Athlete Academic Services
BS, UNC-Greensboro; MS, Wake Forest University

Nikki Elston (2022)
Assistant Dean of Academic Advising
BS, University of West Florida; PhD, Georgia State University

Debbie French (2019)
Director of Academic and Instructional Technology
BA, Denison University; MAT, Miami University; PhD, University of Wyoming

T. Nathaniel French (1995)
Director, Executive Director of First in the Forest
BA, Wake Forest University; MA, PhD, UNC-Chapel Hill

Laura Giovanelli (2014)
Associate Dean for Learning Spaces
BA, UNC-Chapel Hill; MFA, NC State University

Amanda Griffith (2023)
Associate Dean for Academic Planning
BA, Colgate University; MA, PhD, Cornell University

Eric Ashley Hairston (2019)
Associate Dean of Special Projects
BA, Wake Forest University; MA, PhD, University of Virginia; JD, UNC-Chapel Hill

Sean Howard (2025)
Senior Director of Development
BA, Rutgers University

Anthony Marsh (1996)
Senior Associate Dean of Graduate School of Arts and Sciences
BPE, MEd, University of Western Australia; PhD, Arizona State University

Jennifer Rogers (2012)
Associate Dean for Academic Advising
BA, UNC-Greensboro; MA, Wake Forest University; PhD, Syracuse University

Seneca Rudd (2011)
Assistant Dean of Academic Operations
BS, Appalachian State University

Jackie Sheridan (2020)
Director of Wake Forest Scholars Program
AB, University of Notre Dame; MA, Georgetown University

Eric Stottlemyer (2012)
Associate Dean for Interdisciplinary Programs and Experiential Learning
BA, Ohio State University; MA, San Diego State University; PhD, University of Nevada

David F. Taylor (2005)
Assistant Dean for Global Study Away Programs, Center for Global Programs and Studies
BA Princeton; MALS, Wake Forest University

Shane Weimer (2023)
Assistant Dean for Academic Advising
BA, Brevard College

Kimberly Wieters (2007)
Assistant Dean for Finance and Administration
BS, College of Charleston

Betina Wilkinson (2010)
Associate Dean for Faculty Development and Belonging
BA, Loyola University New Orleans; MA, PhD, Louisiana State University

Graduate School

Jackie Krasas (2023)
Dean of the College and Graduate School of Arts & Sciences
BA, Lehigh University; PhD, University of Southern California

Anthony P. Marsh (1996)
Senior Associate Dean of the Graduate School of Arts & Sciences
BPE, MEd, The University of Western Australia; PhD, Arizona State University

Dwayne Godwin (1997)
Senior Associate Dean of Biomedical Sciences, Bowman Gray Campus
BA, University of West Florida; PhD, University of Alabama at Birmingham

Jennifer Rogers (2012)
Associate Dean of Academic and Student Affairs
BFA, BA, UNC-Greensboro; MA, Wake Forest University; PhD, Syracuse University

Dixie Ross (2008)
Assistant Dean of Academic Operations

BS, MBA, Vanderbilt University

School of Business

Stacie Petter (2022)
Acting Dean, School of Business
BS, Berry College; MBA, PhD, Georgia State University

Keith Gilmer (2015)
Chief Administrative Officer
BS, Lander University; MBA, Vanderbilt University

Sylvia Green (2009)
Chief Marketing Officer
BS, University of Colorado

Matt W. Imboden (2008)
Chief Student & Academic Services Officer
BA, MA, Wake Forest University, MEd, ABD, UNC-Greensboro

Scott M. Shafer (1998)
Senior Associate Dean of Programs; Professor
BBA, BS, PhD, University of Cincinnati

Greg Stewart (2025)
Senior Associate Dean for Faculty & Research; Thomas K. Hearn, J. Professor; Professor
BS, Brigham Young University; PhD, Arizona State University

A complete, and up-to-date, listing of School of Business executive leadership is available online (https://business.wfu.edu/tradition-impact/school-business-leadership).

School of Divinity

Corey D. B. Walker (2020)
Dean, School of Divinity and Wake Forest Professor of the Humanities
BS, Norfolk State University; MTS, Harvard University; MDiv, Virginia Union University; PhD, The College of William and Mary

Elizabeth Gandolfo (2015)
Associate Dean of Academic Affairs and Earley Associate Professor of Catholic and Latin American Studies
BA, Saint Joseph's University; MTS, University of Notre Dame; PhD, Emory University

Joshuah Brian Campbell (2021)
Director of Worship, Music, and the Arts and Director of University Gospel Choir
BA, Harvard University; MDiv, Union Theological Seminary

Dan Culpepper (2025)
Director of Marketing, Communications, and Public Relations
BS, BFA, Appalachian State University

Roger Epps (2013)
Director, Creative Content
BS, Radford University; MA, Wake Forest University

Brittani Hunt (2020)
Assistant Dean of Admissions and Student Services
BBA, Tennessee State University; MDiv, Wake Forest University

Hannah McMahan King (2022)
Assistant Dean of Development
BA, MDiv, Wake Forest University

John Senior (2011)
Assistant Dean of Vocational Formation and Doctoral Education and Director, Art of Ministry
AB, Bowdoin College; MDiv, Harvard Divinity School; PhD, Emory University

Shar Seyedin (2022)
Director, Finance and Administration
BS, Pepperdine University; MBA, UNC-Greensboro

Stacy Smallwood (2024)
Executive Director, Faith COMPASS Center and Visiting Associate Professor of Religion and Public Health
BS, Wake Forest University; MPH, PhD, University of South Carolina

School of Law

Andrew R. Klein (2023)
Dean & Suzanne Reynolds Distinguished Chair in Law
BA, University of Wisconsin; JD, Emory University School of Law

Meghan Boone (2020)
Associate Dean for Research and Professor of Law
BA, Trinity College; LLM, Georgetown University; JD, American University Washington College of Law

Evan Didier (2021)
Assistant Dean of Admissions and Financial Aid
AA, Bard College at Simon's Rock; BA, Vanderbilt University; JD, University of Virginia School of Law; MEd, Harvard University

Tara Ebrahimi (2022)
Executive Director of Marketing and Communications
BA, University of Virginia; MFA, University of Washington

Marie-Amélie George (2020)
Associate Dean for Strategic Initiatives and Professor of Law
BSFS, Georgetown University; MSt, University of Oxford; PhD, Yale University; JD, Columbia Law School

Allyson E. Gold (2021)
Associate Dean for Experiential Learning, Professor of Law, and Director of Medical-Legal Partnership Clinic
BA, University of Virginia; JD, Emory University

Liz Johnson (2023)
Assistant Dean of Academic Excellence and Bar Support
BA, UNC-Charlotte; MLS, North Carolina Central University; JD, North Carolina Central School of Law

Christopher Knott (2012)
Associate Dean for Information Services and Professor of Law
BA, University of Iowa; JD, University of Michigan; MLIS, Indiana University

Adam Landreth (2024)
Assistant Dean for Online Programs
BA, BS, UNC-Greensboro; MA, Liberty University

Margaret Lankford (1990)
Senior Director, Finance and Administration
BS, UNC-Greensboro

Tanya Marsh (2010)

Senior Associate Dean for Academic Affairs and Professor of Law
BA, Indiana University; JD, Harvard Law School

Chris Martin (2016)
Assistant Dean for Academic Affairs
BBA, Iowa State University; MS, Northwestern University; JD, Chicago-Kent College of Law

Barbara Melendez (2025)
Assistant Dean of Achievement and Impact
BS, Weber State University; JD, Brigham Young University

Sarah J. Morath (2020)
Associate Dean for International Affairs and Professor of Law
BA, Vassar College; JD, University of Montana School of Law

Matt Nelkin (2014)
Senior Director, Law Information Technology
BA, Wake Forest University

Branden Nicholson (2019)
Assistant Dean for Student Affairs
BA, UNC-Charlotte; MEd, Northeastern University

Megan Ratley (2016)
Director of Alumni Engagement
BA, Salem College; MS, High Point University

Logan Roach (2015)
Assistant Dean for Development
BS, Wake Forest University

Keith Robinson (2021)
Associate Dean for Academic Affairs and Professor of Law
BSE, Duke University; JD, Duke University

Francie Scott (2011)
Assistant Dean of Career and Professional Development
BA, University of Virginia; JD, Wake Forest University; MSW, UNC-Chapel Hill

School of Professional Studies

Charles Iacovou (2001)
Dean, School of Professional Studies
BSc, University of Vermont; PhD, The University of British Columbia

Lori Bequette (2021)
Associate Dean, Graduate Programs and Information Technology
BA, MA, PhD, West Virginia University

Lauren Burns (2021)
Chief Marketing and Student Services Officer
BS, University of New Mexico; MS, Colorado State University

Michael Kirchner (2026)
Assistant Dean of Faculty and Talent Management
BA, MA, PhD, University of Wisconsin-Milwaukee

Kerry Shronts (2015)
Assistant Dean, Executive and Professional Education
BS, UNC-Charlotte

Erin Cordell (2023)
Executive Director, Finance
BS, Appalachian State University; MBA, Liberty University

Loréal Maguire (2021)
Executive Director, Student Services and Alumni Engagement
BS, MS, Indiana University; DEd, The Pennsylvania State University

John Jones (2025)
Executive Director, Academic Programs
BS, MEd, University of Arkansas

Teronda McNeil (2025)
Executive Director, Academic Programs
BA, Methodist University; MS, Central Michigan University; MBA, UNC-Pembroke; PhD, Capella University

Wake Forest School of Medicine

L. Ebony Boulware, MD, MPH
Dean, Wake Forest University School of Medicine; Chief Science Officer and Vice Chief Academic Officer, Advocate Health
BA, Vasser College; MD, Duke University School of Medicine; MPH, Johns Hopkins Bloomberg School of Public Health

Amit Acharya, BDS, MS, PhD, FAMIA
Leader, Midwest; President, Advocate Aurora Research Institute; Chief Research Officer and System Vice President, Advocate Aurora Health
BDS, Government Dental College; MS, Western Kentucky University; PhD, University of Medicine and Dentistry of New Jersey

Jamy Ard, MD (2023)
Vice Dean, Clinical Research
BS, Morehouse College; MD, Duke University School of Medicine

Alain Bertoni, MD, MPH
Interim Vice Dean, Undergraduate Medical Education
MD, Johns Hopkins University School of Medicine

Amber K. Brooks, MD, MS
Vice Dean, Institutional Learning and Transformation
MD, University of Iowa College of Medicine

Lola A. Brown, PhD
Vice Dean, Strategic Initiatives

Cristina M. Furdui, PhD (2023)
Vice Dean, Basic and Pre-Clinical Science
BS, Babes-Bolyai University; PhD, Yale University School of Medicine

Scott L. Furney, MD, MBA (2023)
Vice Dean, Academic Affairs, Charlotte
BS, University of Michigan; MD, University of Michigan Medical School; MBA, University of Massachusetts Amherst

Terry L. Hales, Jr., MBA
Vice Dean, Academic and Innovation Development

Thomas Hansen, MD, FAAFP, MBA, MDiv, MS (2023)
Leader, Graduate Medical Education
BS, St. Louis University; MDiv, Weston Jesuit School of Theology; MD, Creighton University School of Medicine; MBA, Creighton University College of Business Administration; MS, Northwestern University

Ruben Mesa, MD (2023)
Vice Dean, Cancer Programs

BS, University of Illinois, Urbana-Champaign; MD, Mayo Clinic Alix School of Medicine

Christopher O'Byrne, MS (2016)
Vice Dean, Administration
BA, Stonehill College; MS, Northeastern University

Darcy Reed, MD, MPH
Vice Dean, Faculty Affairs

Gary Rosenthal, MD, FACP
Vice Dean, Clinical And Academic Excellence, Winston Salem
MD, University of Pennsylvania School of Medicine

Adam Samson, MS, PMP, CCRA, CCRC, CCDM
Vice Dean, National Center for Clinical Trials

Jennifer Sullivan, MD, MPH
Vice Dean, Translational Centers of Excellence

Lynne Wagenknecht, DrPH, FAHA (2013)
Vice Dean, Population Health Sciences
BS, Lenoir-Rhyne University; Dr PH, University of Alabama at Birmingham

Terri S. Yates, PhD (2015)
Vice Dean, Health Professions
BS, MA, Wake Forest University; PhD, UNC-Greensboro

David Zhao, MD, FACC, FSCAI
Vice Dean, Cardiovascular Programs
MD, Shanghai Medical University

Admissions and Financial Aid

Eric Maguire (2019)
Vice President for Enrollment
BA, Muhlenberg College; MA, Indiana University

Karen Vargas (2017)
Dean of Admissions
BA, Haverford College; MSM, Rosemont College

Dawn E. Calhoun (1999)
Sr. Associate Dean of Admissions - Admissions Programming
BA, MA, Wake Forest University

Sheena Ramirez (2021)
Sr. Associate Dean of Admissions – Admissions Operations
BM, Oberlin College & Conservatory; MM, New England Conservatory of Music; DMA, James Madison University

Tom Benza (2006)
Senior Associate Dean for External Recruitment
BA, BS, Appalachian State University; MA, Wake Forest University

Paul M. Gauthier (2003)
Associate Dean of Merit-Based Scholarships
BA, Wake Forest University; MA, St. Louis University

Mame Mor Ndiaye (2023)
Associate Dean of International Admissions
BA, Truman State University; MA, Webster University

Adrian Greene (2018)
Associate Dean of Admissions Communications
BA, MA, Wake Forest University; PhD, UNC-Chapel Hill

Thomas Ray (2014)
Senior Associate Dean of Admissions
BA, Wake Forest University

Susan Faust (2014)
Associate Dean of Admissions
BA, MA, University of Arkansas at Fayetteville

Magdalena Perez Vicente (2022)
Associate Dean of Admissions
BA, Wake Forest University; MA, Duke University

Jeremy Shearer (2023)
Associate Dean of Admissions
BS, University of Evansville; MS, Appalachian State University

Lowell Tillett (2014)
Associate Dean of Admissions
BA, Wake Forest University; JD, Quinnipiac University

Matthew Avara (2017)
Assistant Dean of Admissions
BS, Wake Forest University

David Barkley (2024)
Assistant Dean of Admissions
BA, Wake Forest University; MA, University of Virginia

Parker Cabiness (2023)
Assistant Dean of Admissions
BS, Wake Forest University

Riley Hall (2025)
Assistant Dean of Admissions
BA, UNC-Asheville

Bryanna Ledbetter (2024)
Assistant Dean of Admissions
BA, UNC-Chapel Hill

Meilyn Norman (2023)
Assistant Dean of Admissions
BA, Wake Forest University

Destiny Peterson (2024)
Assistant Dean of Admissions
BA, DePauw University

Kai Roberts (2026)
Assistant Dean of Admissions
BS, Carnegie Mellon University

Mary Brown (2026)
Admissions Counselor
BA, Wake Forest University

Alyssa Eaton (2025)
Admissions Counselor
BA, Wake Forest University

Nolan Mood (2024)
Admissions Counselor
BA, Wake Forest University

Brian Rowland (2025)
Admissions Counselor

BA, Wake Forest University

Carson Smith (2025)
Admissions Counselor
BA, Wake Forest University

Malachi Woodard (2024)
Admissions Counselor
BA, Wake Forest University

Christopher R. Franklin (2013)
Senior Director of Admissions Systems
BS, University of Maryland

Kenya McCoy (2023)
Enrollment Data Analyst
BA, UNC-Chapel Hill; MA, PhD, University of Notre Dame

Ashley King (2024)
Assistant Director, Admissions Systems
BS, Clemson University

Jenn Smith (2024)
Associate Director, Admissions Systems
BFA, UNC-Greensboro

Craig A. Slaughter (2024)
Executive Director of Financial Aid
BA, Eastman School of Music; MS, Indiana University

Milton W. King (1992)
Associate Director of Financial Aid
BA, MBA, Wake Forest University

Dustin Knight (2025)
Associate Director, Compliance and Training
BA, Ashford University; MAEd, University of Arizona

Lauren Trethaway (2013)
Associate Director of Financial Aid
BS, NC State University

Jarrett Zongker (2009)
Associate Director of Financial Aid
BA, University of North Florida

Lashawnda Jones (2025)
Assistant Director of Financial Aid
BS, East Carolina University

Joseph McDougal (2025)
Assistant Director, Veterans Affairs
BS, MBA, University of Maryland

Elizabeth G. Sandy (2013)
Assistant Director of Financial Aid
BS, MA, Rider University

Lisa A. Myers (1996)
Financial Aid Counselor

Ella R. Jones (2025)
Financial Aid Counselor
BA, MA, Indiana University Northwest

Thomas Ard (2023)
Financial Aid Systems Manager and Report Analyst
BA, Presbyterian College; MPA, Clemson University

Nicole Pare (2024)
Financial Aid Systems Manager
BS, Utica College; MA, University of the Rockies

Brittany Ray (2022)
Financial Aid Assistant
UNC-Greensboro

Athletics

John Currie (2019)
Vice President & Director of Athletics
BA, Wake Forest University; MS, University of Tennessee

Lindsey Babcock (2020)
Deputy Director of Athletics, SWA
BS, Elmira College; MS, West Virginia University

Cliff Bonner (2025)
Associate Athletics Director, Fan Experience, Game Presentation & Campus
BS, Bowling Green State University; MBA, University of Toledo

Scott Garrett (2024)
Senior Deputy Athletic Director
BA, Illinois State; MS Indiana University

Pete Paukstelis (2019)
Counsel/Senior Athletics Strategy Advisor & Risk Management
BA, University of Kansas; JD, University of Michigan

Jane Caldwell (1999)
Senior Associate Athletics Director for Student-Athlete Services and Assistant to the Dean of the College
BS, UNC-Greensboro; MA, Wake Forest University

Randy Casstevens (2012)
Executive Associate Athletics Director, Chief Financial Officer
BS, MBA, Wake Forest University

Barry Faircloth (2001)
Executive Associate Athletic Director, Development & Partnerships
BS, Wake Forest University

Jordan Jarry (2014)
Associate Athletic Director, Administration
BA, MS Georgetown University

Daren Koudele (2021)
Senior Associate Athletics Director, Compliance & Administration
BS, Kansas State University; MS, Wichita State University; JD, West Virginia University

Annette Medalie (2020)
Senior Associate Athletics Director, Finance
BS, Syracuse University; MBA, Florida Atlantic University

Michael Piscetelli (2005)
Senior Associate Athletics Director, Development
BA, Wake Forest University

Justin Rogers (2026)
Associate Athletics Director, Sales & Fanbase Growth

BS, St. Joseph's University; MS, University of Alabama

Ellie Shannon (2012)
Senior Associate Athletics Director, Administration and Strategic Operations
BS, Grand Valley State University; MS, Kansas State University

Steve Weinman (2025)
Senior Associate Athletics Director, Analytics & Basketball GM
BJ, University of Missouri

Craig Zakrzewski (2002)
Senior Associate Athletics Director, Capital Projects and Operations
BA, Wake Forest University

Campus Life

Shea Kidd Brown (2022)
Vice President for Campus Life
BA, University of Southern Mississippi; MEd, University of Georgia; PhD, University of Memphis

Andrea Bohn (1997)
Associate Vice President, Campus Life Finance & Administration
BS, Gardner-Webb University

Abigail Brumfield (2022)
Director for Strategic Initiatives
BA, University of Arkansas; MA, University of Tennessee, Knoxville

Matthew Clifford (2010)
Associate Vice President, Campus Life and Dean of Students
BA, Davidson College; MEd, University of South Carolina; EdD, University of North Florida

Regina G. Lawson (1989)
Assistant Vice President, Campus Life and Chief of University Police
BS, UNC-Wilmington

Marianne Magjuka (2011)
Assistant Vice President of Campus Life for Engagement
BA, MEd, University of Notre Dame; EdD, University of Pennsylvania

Warrenetta Mann (2021)
Assistant Vice President for Health and Wellbeing
BA, Vanderbilt University; MA, University of Louisville; PsyD, Spalding University

Sadie Stetler (2025)
Executive Assistant to the Vice President for Campus Life
BA, University of Wisconsin-Madison; MA, McMaster University

Shana Atkins (2011)
Director of Strategic Communications & Marketing
BA, UNC-Greensboro

Chauncey Bowers (2018)
Emergency Services Manager
BS, University of Maryland Eastern Shore

James Byrd (2012)
Director, Deacon One
BA, Gardner-Webb University; MA, New Orleans Baptist Theological Seminary

Stephanie Carter-Atkins (2017)
Executive Director for Residence Life and Housing
BA, Florida State University; MEd, University of Georgia; EdD, Capella University

Aishah Casseus (2020)
Executive Director & Title IX Coordinator
BS, Troy University; JD, NC Central University

Denisha Champion (2010)
Director of University Counseling Center
BA, Clemson University; MA, PhD, UNC-Greensboro

Chris Donald (2024)
University Chaplain
AB, College of William & Mary; MDiv, Duke University; EdD, Vanderbilt University

Monique Gore (2022)
Director, Intercultural Center
BA, Gettysburg College; MS, Cabrini University

Ashley Hawkins Parham (2010)
Director, Office of Wellbeing
BS, College of Charleston; MA, Wake Forest University

Cathy Higginbotham (2023)
Executive Director of Student Health Service
BS, University of Charleston West Virginia; MA, East Carolina University

Cherise James (2009)
Director of Orientation and Lower Division Programming
BS, University of Florida; MA, Nova Southeastern University; PhD, UNC-Greensboro

Zakiyyah Niang (2023)
Assistant Dean, Community Response and Caring Outreach
BA, Salem College; MA, Liberty University

Dana Pursley (2026)
Executive Director, Student Engagement
BA, Heidelberg University; MA, Ohio State University

Marcus Sanderlin (2017)
Director, Leadership Engagement
BS, University of Central Florida; MA, Michigan State University

Jim Settle (2019)
Associate Dean, Student Conduct
BS, Pittsburgh State University; MA, Bowling Green State University; PhD, University of Missouri at Saint Louis

Brad Shugoll (2016)
Director, Office of Civic and Community Engagement
BS, Wake Forest University; MA, University of Michigan

Michael P. Shuman (1997)
Director, Learning Assistance Center and Disability Services
BA, Furman University; MEd, University of South Carolina; PhD, UNC-Greensboro

Shell Sizemore (2007)
Director, Women's Center
BA, MA, Wake Forest University; PhD, UNC-Greensboro

Demetria Smith (2023)
Director, Fraternity and Sorority Life

BA, East Carolina University; MS, Southern New Hampshire University; EdD, Wingate University

Shandi Starks (2025)
Director of People and Culture
BS, North Carolina Agricultural and Technical State University

Chaplain's Office

Christopher R. Donald (2024)
University Chaplain
AB, The College of William & Mary; MDiv, Duke University; EdD, Vanderbilt University

Kellee Monet (K. Monet) Rice-Jalloh (2012)
Senior Associate University Chaplain for Interfaith and Spiritual Life
BA, Louisiana State University; MDiv, Princeton Theological Seminary; DMin, Duke Divinity School

Julie L. Tonnesen (2026)
Associate University Chaplain for Community and Religious Life
BA, Elon University; MDiv, Duke University

Akshay Gupta (2024)
Assistant University Chaplain for Interfaith Engagement and Hindu Life and Religious Engagement
BA, UNC-Chapel Hill; MA, Duke University; PhD, University of Cambridge

Stephanie Marshall (2024)
Assistant University Chaplain for Jewish Life and Executive Director of Hillel
BA, University of Puget Sound; MAJE, Hebrew Union College-Jewish Institute of Religion

Jacob (Imran) Haq (2024)
Assistant University Chaplain for Muslim Life
BA, George Mason University; MA, MA, Hartford International University

Christina Surles (2025)
Office Manager
BA, North Carolina A&T State University

Finance and Administration

Jacqueline A. Travisano (2023)
Executive Vice President and Chief Financial Officer
BS, Robert Morris University; MBA, Chatham University; EdD, Nova Southeastern University

Dedee DeLongpré Johnston (2009)
Vice President, Institutional Sustainability and Chief Sustainability Officer
BS, University of Southern California; MBA, Presidio Graduate School

Brandon Gilliland (2024, 2007-2017)
Senior Vice President for Finance and Administration
BBA, Northeastern State University; MBA, University of Tulsa

Berthi Hotham (2024)
Assistant Vice President, Business Strategy and Transformation
BS, Universidad del Norte; MS, Florida International University

Christopher H. Kiwus, PE (2024)
Vice President for Facilities, Real Estate, and Planning
BS, Union College; BA, SUNY-Stony Brook; MS, Georgia Institute of Technology; MA, U.S. Naval War College; PhD, Rutgers University

Mur K. Muchane (2015)
Vice President for Information Technology and Chief Information Officer
BA, Warren Wilson College; MS, University of Tennessee

Mary Lucal (2024)
Vice President and Chief Human Resources Officer
BS, College of Wooster; BS, Ohio State University; MS, Lesley University; PhD, University of Tennessee

John K. Wise (2002)

Vice President, Hospitality and Auxiliary Services
BS, University of Wisconsin-Stout

Global Wake Forest

J. Kline Harrison (1990)
Associate Vice President
Vice Provost for Global Affairs and Kemper Professor of Business
BS, University of Virginia; PhD, University of Maryland

Leigh Hatchett Stanfield (1999)
Executive Director of Global Engagement and Administration
BA, Wake Forest University

David F. Taylor (2005)
Assistant Dean of Global Study Away Programs
BA, Princeton University; MA, Wake Forest University

Jessica A. Francis (2007)
Executive Director of Global Abroad Programs
BA, St. Edward's University; MA, Wake Forest University

W. Patrick Bingham (2021)
Director of RAISE Center
BA, Virginia Commonwealth University, George Mason University; MA, PhD, University of East Anglia

Nathanial W. Lynch (2024)
Director of Center for Immigration Services & Support
BS, Oklahoma State University; MS, University of Central Arkansas

Steve Seaworth (2017)
Executive Director of INSTEP-WFU Programs
BA, University of Redlands; MA, University of California-Riverside

Janice W. Claybrook (2006)
Director of Short-Term/Summer Programs & Scholarships
BA, UNC-Chapel Hill; MS, UNC-Greensboro

Sandra Lisle McMullen (2012)
Associate Director for Global Campus Programs
BS, Ball State University; MA, Wake Forest University

Blair Bocook (2023)
Associate Director of Center for Immigration Services & Support
BA, MA, Marshall University

Cody Ryberg (2016)
Assistant Director of Global Abroad Programs
BA, Luther College; MS, St. Cloud State University

Greta Smith (2018)

Assistant Director of Center for Immigration Services & Support
BA, UNC-Greensboro

Christina Canon (2022)
Senior Study Abroad Advisor
BA, MA, UNC-Greensboro

Kylie Holloway (2022)
Senior Study Abroad Advisor
BS, Appalachian State University

Timothy Dykes (2023)
Study Abroad Advisor
BS, Florida State University

Amanda E. Batten (2024)
Study Abroad Advisor
BA, Campbell University; MS, Emory University

Sarah Dale (2013)
Global Records and Data Analyst
BA, Rollins College; MS, University of Texas-Austin

Claire Tynan (2025)
Study Abroad Advisor
BA, UNC-Chapel Hill

Samantha Young (2025)
Study Abroad Advisor
BA, NC State University

Kim Snipes (2008)
Event Manager
Bob Jones University

Lori Crouse (2009)
Operations Specialist
Forsyth Tech

Jana Soto (2025)
Immigration Advisor
BA, Palm Beach Atlantic University; MA, Taylor University

Maggie Williams (2025)
Immigration Advisor
BM, University of Georgia; MM, UNC School of the Arts

Madison Wood (2025)
Research Coordinator, RAISE Center
BS, UNC-Greensboro

Lisa Kirkman (2026)
Office Administrator
BS, Salem College

Silvia Correa (2014)
Assistant to the Vice Provost of Global Affairs
AA, LaGuardia Community College

Robbye Ramirez (2021)
Business Manager, Global Affairs
BS, NC State University

Hospitality and Auxiliary Services

John K. Wise (2002)
Vice President for Hospitality and Auxiliary Services
BS, University of Wisconsin-Stout

Sharon Bohannon (1997)
Director of Auxiliary Services - Conference and Events

Alex Crist (2010)
Director of Auxiliary Services - Internal Operations
BS, University of Indianapolis

Ben Casstevens (2021)
Director of Auxiliary Services - External Operations
BA, MA, Wake Forest University

Roger Brown (2015)
Director of Food and Beverage - Graylyn
Northern Arizona University

Alexandra Collins, CHSE (2024)
Director of Sales and Marketing - Graylyn
BS, BS, UNC-CH; MA, Cornell University

Kevin Donnelly (2026) - Graylyn
Director of Hotel Operations
BS, University of Nevada-Las Vegas

Zugehily Nieves (2022)
Director of Finance - Graylyn
MSA, Purdue University

Information Systems

Mur Muchane (2015)
Vice President for Information Technology & CIO
BA, Warren Wilson College; MS, University of Tennessee

Mary Jones (2015)
Executive Director of IT Finance & Administration
BA, UNC-Chapel Hill

Amy Triana (2022)
Director, Client Services
BA, College of Charleston; MS, University of Georgia

Rob Smith (2017)
Executive Director of IT Infrastructure
BA, The College of William & Mary, University of South Carolina Columbia

Odi Iancu (2009)
Executive Director, Enterprise Systems
PhD, Delft University of Technology, the Netherlands

David Eaton (2019)
Executive Director, Analytics and Data Governance
BS, UNC-Greensboro; MBA, Queens University

Hannah Inzko (2017)
Executive Director, Academic Technology
BA, Pennsylvania State University; MSEd, University of Miami

Brent Babb (2015)
Associate Director IT Infrastructure
AA, ECPI

Will Tomlinson (2014)
Associate Director of IT Infrastructure

BA, Elon University

Sarah Wojcik-Gross (2007)
Associate Director, IS Technology Learning & Outreach
BA, Mansfield University; MSEd, Elmira College

Mike Greco (2015)
Principal Client Engagement Specialist
BS, Lenoir-Rhyne College

Anthony Hughes (2010)
Assistant Director Enterprise Systems
BS, Southern Illinois University

Jeffrey Teague (2011)
Associate Director Information Security
BS, MS, NC State University

Scott Tandon (2026)
Assistant Director, Client Systems & Device Strategy
BA, UNC-Chapel Hill; AA, Forsyth Tech Community College

Phil May (1996)
Assistant Director Enterprise Systems & Cloud Platforms
BS, MBA, Wake Forest University

George Campbell (2019)
Assistant Director Analytics & Data Governance
BA, Wake Forest University; MA, Indiana University-Bloomington

Eudora Struble (2015)
Director, Technology Accessibility
BA, University of Colorado-Boulder; MA, University of Chicago

Paul Whitener (2007)
Associate Director Digital Fabrication & Maker Education
BA, UNC-Greensboro; AA, Forsyth Technical College

Institutional Research

Philip G. Handwerk (2013)
Assistant Provost of Institutional Research
BA, Wake Forest University; MS, NC State University; PhD, University of Pennsylvania

Nicole Brocato (2014)
Director of Institutional Effectiveness
PhD, University of Maryland, Baltimore County

Adam Shick (2001)
Senior Associate Director of Institutional Research
BS, US Merchant Marine Academy; MA, Wake Forest University

Sara Gravitt (1996)
Assistant Director of Institutional Research
BS, High Point University

Ande Strullmyer (2021)
Data Scientist
BS, DePaul University; MA, Wake Forest University

Ekaterina Tullos (2025)
Data Analyst
BS, Salisbury University

Janay Williams (2024)
Data Analyst
BA, Wake Forest University; MS, University of Tennessee-Knoxville

Office of General Counsel

Brian White (2023)
Vice President and General Counsel
BA, JD, University of Iowa

Dina J. Marty (2001)
Deputy General Counsel
BA, Drake University; JD, Wake Forest University

Ryan R. Brown (2024)
Associate General Counsel
BA, JD, Louisiana State University

Mary H. Crosby (2022)
Senior Associate General Counsel
BA, JD, UNC-Chapel Hill

Cliffton Jacques (2026)
Assistant General Counsel
BA, JD, University of Georgia

Carrie O. Johnston (2023)
Associate General Counsel
BA, Rhodes College; MA, Johns Hopkins University; JD, Elon University

Peter J. Paukstelis (2019)
Senior Associate General Counsel
BA, University of Kansas; JD, University of Michigan

Libraries

Lauren Pressley (2025)
Dean of the Z. Smith Reynolds Library
MLIS, University of North Carolina at Greensboro; BA, North Carolina State University

Rodrigo Castro (2021)
Director of Public Services, Z. Smith Reynolds Library
BS, Florida International University; MLIS, University of South Florida

Lauren Corbett (2008)
Director, Resource Services, Z. Smith Reynolds Library
BA, Davidson College; MLIS, UNC-Greensboro

Thomas P. Dowling (2012)
Director, Technologies, Z. Smith Reynolds Library
BM, MLIS, University of Michigan

Christopher Knott (2012)
Associate Dean for Information Services and Professor of Law, Professional Center Library
BA, University of Iowa; JD, University of Michigan; MLIS, Indiana University

Joel Rivera (2022)
Assistant Director of Development, Z. Smith Reynolds Library
BA, BS, University of Florida

Sandy Rodriguez (2024)
Associate Dean, Z. Smith Reynolds Library
BM, MLIS, University of Kentucky

Rosalind Tedford (1994)
Director, Research and Instruction, Z. Smith Reynolds Library
BA, MA, Wake Forest University; MLIS, UNC-Greensboro

Brandy Hardy (2016)
Interim Director of the Coy C. Carpenter Library
BS, Winston-Salem State University; MS, University of North Texas

Tanya Zanish-Belcher (2013)
Director, Special Collections and Archives, Z. Smith Reynolds Library
BA, Ohio Wesleyan; MA, Wright State University

Personal and Career Development

Andy Chan (2009)
Vice President, Personal and Career Development
BA, MBA, Stanford University

Mercy Eyadiel (2011)
Senior Associate Vice President for Employer Relations & Chief Partnership Officer, Charlotte Campus Team
BA, Southern Nazarene University; MAEd, Oklahoma City University

Heidi Robinson (2011)
Associate Vice President for Career Education and Coaching
Professor of the Practice, Department of Education
BA, Edward R Murrow School of Communications; MA, Wake Forest University; PhD, Indiana State University

Allison McWilliams (2010)
Assistant Vice President, Mentoring and Alumni Personal and Career Development
BA, Wake Forest University; MA, PhD, University of Georgia

Lauren Beam (2010)
Director, Mentoring and Alumni Personal and Career Development
BA, Wake Forest University; MS, UNC-Greensboro

Amy Willard (2011)
Director of Career Education and Student Experience, Career Education and Coaching
BA, NC State University; MA, Wake Forest University

Brian Mendenhall (2014)
Senior Associate Director of STEM Career Education, Career Education and Coaching
BA, UNC-Greensboro; JD, Samford University

Cesar Grisales (2019)
Assistant Director of First Generation Professional Success Programs, Career Education and Coaching
BA, Wake Forest University

Donell Moore (2023)
Associate Director, Career Education and Coaching; Professional Opportunities and Readiness
BA, MA, North Carolina Central University

Kelsey Lane (2025)
Assistant Director for Student Organization Engagement, Career Education and Coaching
BS, UNC-Charlotte; MA, Bowling Green State University

Patrick Sullivan (1997)
Senior Director of Operations and Special Projects, Career Education and Coaching
BA, MBA, Wake Forest University

Shan Woolard (2001)
Associate Director, Career Education and Coaching
BA, Salem College; MS, UNC-Greensboro; MA, Wake Forest University

Sharon Ralston (2020)
Career Coach, Career Education and Coaching
BS, MEd, UNC-Greensboro; MHS, Wake Forest University

Rebecca Johnson Chase (2017)
Career Coach, Career Education and Training
Adjunct Lecturer, Department of Education
BS, MA, Wake Forest University

Dana Steelman Helms (2022)
Assistant Director of Operations and Finance, Career Education and Coaching
BS, UNC-Charlotte; MBA, Wake Forest University

Lisa Simmons (2002)
Associate Director, Marketing and Communications
BS, Rollins College; MALS, Wake Forest University

Dana Hutchens (1991)
Director, Employer Relations
BS, UNC-Greensboro

Amy Bull (2013)
Associate Director, Employer Relations Outreach
BA, Grove City College

Ashley Graham Phipps (2014)
Associate Director, Employer Relations
BA, MS, Wake Forest University

Caroline Moore (2007)
Manager, Employer Relations Outreach
BFA, Dartmouth College

Jason Wilkinson (2019)
Assistant Director, Employer Experience
BGS, Nicholls State University

Vicki L. Keslar (2009)
Senior Associate Director, Employer Relations
BS, Indiana University of Pennsylvania; MPM, Carnegie Mellon University

Amy Wagner (1986)
Executive Assistant to the Vice President of Career Development and Assistant to
Associate Vice President of Career Education

Courtney Nance (2019)
Operations and Projects Assistant
AAS, Guilford Technical CC; BA, UNC-Charlotte

Mike Crespi (2004)
Director, Market Readiness and Employment, School of Business
BA, BS, University of New Hampshire; MBA, Wake Forest University

Caleigh McElwee (2011)
Associate Director, Market Readiness and Employment, School of Business

BA, Wake Forest University; MS, EdS, UNC-Greensboro

Cheryl Rotyliano (2021)
Director, Market Readiness and Employment, School of Business
BA, Le Moyne College; MS, Ed, Drexel University

Ericka Spradley (2023)
Associate Director, Market Readiness and Employment, School of Business
BA, Strayer University

Lisa Bryant (1993)
Associate Director, Market Readiness and Employment
BS, California Coast University

Sally Perez-Ramos (2019)
Associate Director, Market Readiness and Employment, School of Business
BA, University of Texas-Pan American; MA, St. Edward's University

University Advancement

Mark A. Petersen (2008)
Senior Vice President for University Advancement
BA, Brandeis University; MA, University of Southern California

Chad Cheek (2025)
Associate Vice President, Advancement Strategy, Marketing and Communications, and Editor-in-Chief, Wake Forest Magazine
MBA, Wake Forest University

Melissa N. Combes (1996)
Associate Vice President, Presidential Advancement and Liaison to the Trustees
BA, Washington College; MBA, Wake Forest University

Michael Haggas (2010)
Associate Vice President, Academic Fundraising
BA, Clarke University

Shaida Horner (2012)
Associate Vice President, Gift Planning
BA, UNC-Chapel Hill; MAcct, UNC-Chapel Hill; JD, Wake Forest University

Dustie Lanier (2015)
Associate Vice President, Individual Development and National Engagement
BA, Wake Forest University

Linda Luvaas (2009)
Associate Vice President, Corporate and Foundation Relations
BA, Allegheny College; MA, Duke University

Minta A. McNally (1978)
Senior Advisor, University Advancement
BA, Wake Forest University

William T. Snyder (1988)
Senior Associate Vice President, University Advancement
BA, Wake Forest University

Kelly Meachum McConnico (2003)
Assistant Vice President, Alumni and Volunteer Engagement
BS, Wake Forest University

Emily Smith (2006)
Associate Vice President, Philanthropic Engagement
BA, Appalachian State University

Hannah McMahan King (2022)
Assistant Dean of Development, School of Divinity
BA, Wake Forest University; MA, University of Mississippi; MDiv, Wake Forest University

Logan Roach (2015)
Assistant Dean of Development, School of Law
BS, Wake Forest University

Carolyn J. Whitehead (2024)
Vice President, Development and Alumni Engagement
BA, St. Andrew's University

University Registrar

Brad Maki (2024)
University Registrar
BA, EdD, Central Michigan University; MA, Michigan State University

Michael Moore (2019)
Senior Associate University Registrar
BA, Ohio University; MBA, Strayer University; PhD, Old Dominion University

Damian Patterson (2019)
Director, Student Data Reporting Services
BA, Bridgewater College

Alicia Trent (2022)
Associate University Registrar
BS, Radford University; MS, UNC-Greensboro

Candace Speaks (2010)
Executive Assistant & Office Manager

Margaret Clayton (2014)
Assistant Registrar, Compliance & NCAA Eligibility Official
BS, MS, East Carolina University

Ashley Davies (2025)
Registrar Services Coordinator
BA, UNC-Greensboro

Leah Farrow Steele (2021)
Assistant Registrar, Academic Records - Commencement Coordination
BS, High Point University

Alexandria Gallimore (2018)
Assistant Registrar, Scheduling
AA, Surrey Community College

Grace Lee-Seo (2022)
Senior Data Analyst
BS, Baylor University; MS, PhD, UNC-Greensboro

Daisy Martell Salinas (2022)
Assistant Registrar, Registration
BS, UNC-Greensboro

Fagueye Ndiaye (2008)
Assistant Registrar, Manager Reporting
BS, MBA, Southern Illinois University

Cole Peterson (2025)
Assistant Registrar, Graduation and Curriculum
BA, Ohio Wesleyan University

Medina Singletary (2022)
Registrar Service Coordinator
AAS, Forsyth Technical Community College

Richard Titus (2019)
Assistant Registrar, Transfer Evaluation
BA, MA, UNC-Greensboro

University Theatre

Kaylin Gess (2023)
Interim Director of University Theatre
BA, Davidson College; MFA, University of Tennessee, Knoxville

Alice Barsony (2012)
Costume Studio Supervisor
BFA, Rhode Island School of Design; MFA, UNC School of the Arts

Haley Grannon (2025)
Costume and Wardrobe Assistant
BA, Georgia College and State University; MFA, University of Memphis

Sydney Oas (2025)
Assistant Technical Director
BFA, Millikin University

Leslie Spencer (2001)
Audience Services Coordinator
BA, Salem College

Thomas Williams (2012)
Technical Director
BFA, Chicago State University

Other Administrative Offices

Jarrod Atchison (2010)
Professor, Communication
John Kevin Medica Director of Debate
BA, MA, Wake Forest University; PhD, University of Georgia

Peter H. Brubaker (1994)
Professor of Health and Exercise Science
Program Director of Casa Artom (Venice)
BS, East Stroudsburg University; MA, Wake Forest University; PhD, Temple University

Christa Colyer (1997)
Professor, Chemistry
Program Director of Worrell House (London)
BSc, Trent University; MSc, University of Guelph; PhD, Queen's University

Andrew W. Gurstelle (2015)
Associate Teaching Professor, Anthropology
Academic Director of the Museum of Anthropology; Associate Teaching Professor
BA, University of Wisconsin-Madison; MA, PhD, University of Michigan

Michael Lamb (2016)
Director of the Program for Leadership and Character
BA, Rhodes College; BA, University of Oxford (UK); PhD, Princeton University

Grant McAllister (2001)
Associate Professor, German
Faculty Director of Flow House (Vienna)
BA, PhD, University of Utah

Laura Minton (2025)
Acquavella Director of University Art Galleries and Collections
BA, Wake Forest University; MA, PhD, University of Kansas

Peter M. Siavelis (1996)
Professor, Political Science and International Affairs
Director, Chile Across South America Study Abroad Program
BA, Bradley University; MA, PhD, Georgetown University

THE GRADUATE SCHOOL

Mission of the Graduate School

The mission of the WFU Graduate School of Arts and Sciences is to train and mentor future leaders in research, teaching and innovation for serving humanity. This embodies the Graduate School's vital role as an engine of discovery that fuels the nation's scholarly and creative enterprise. The Graduate School contributes to the academic reputation of the university by educating the next generation of teachers and scholars and by providing mentors and role models for educating undergraduates. A strong graduate program also helps support faculty research and is critical for faculty recruitment and retention.

We seek to instill in our students a sense of professionalism, which includes the ethical behavior inherent in their professional role, as well as respect for their colleagues, their field, and for society as a whole. We want our students to be critical, independent thinkers and good citizens. They should be motivated to apply their scholastic efforts to enlighten and improve the wellbeing of society. Thus the Graduate School is a key link for collaboration between departments and schools and for achieving WFU's goal of becoming a collegiate university and major academic medical center.

Our values are steadfast and consist of critical thinking, service, diversity, discovery, mentoring, and ethics. These are integral to all our activities in the classroom, the laboratory or other research environments, the broader communities of which we are a part.

Our vision is for the Graduate School to be a diverse community of excellence. We achieve our vision and fulfill our mission through strategic activities that build pillars of excellence in:

- Student experience: to create an optimized learning and mentoring experience that prepares students to lead in any career path.
- Research: to provide high-quality research partnerships for promoting innovation, discovery and creation of value to the community.
- Faculty and staff support: to enable seamless, effective, aligned services for maximizing time and resources for instruction and research.
- Internal and external communication: to celebrate the prominence and value of the Graduate School and the University.

The Graduate School confers the Master of Arts, Master of Arts in Education, Master of Arts in Human Services, Master of Fine Arts, and Master of Science degrees in the arts and sciences and biomedical science, and the Doctor of Philosophy degree. The Graduate School also offers a MD/MS, MD/PhD, PhD/MMS, as well as a MD/MA in bioethics jointly with the School of Medicine, and a PhD/MBA program jointly with the School of Business. In addition, the Graduate School offers an MDiv/MA in bioethics, counseling, or sustainability as well as a MDiv/MAED jointly with the School of Divinity; and a JD/MA in bioethics and sustainability jointly with the School of Law. Certificates are offered in Bioethics, Curriculum, Instruction, and Assessment, Data Science, Interpreting and Translation Studies, Medieval and Early Modern Studies, Structural and Computational Biophysics, and Sustainability.

History of the Graduate School

In accord with the prevailing custom among American colleges during the antebellum period, Wake Forest granted honorary master's degrees to selected alumni.

By 1862, when the College closed temporarily because of the Civil War, twenty-nine such degrees had been awarded. The first announcement of a program of study leading to an earned graduate degree at Wake Forest was made in 1866. Between 1871, when the first degrees earned under the plan were awarded to John Bruce Brewer (grandson of Samuel Wait) and Franklin Hobgood, and 1951, 383 Master of Arts and Master of Science degrees were granted. In 1949 the School of Arts and Sciences discontinued admitting applicants for the Master of Arts degree because the rapid increase in the size of the undergraduate student body following World War II had overloaded the faculty. The School of Medicine did not interrupt its graduate program. The first Master of Science degree conferred by the school after it moved to Winston-Salem was awarded in 1943, and the degree was offered regularly thereafter by the departments of Anatomy, Biochemistry, Microbiology, Pharmacology, and Physiology.

During the fifteen years the College and the School of Medicine were located in different towns, the study of graduate education continued on both campuses. The self-study report adopted by the faculty of the School of Arts and Sciences immediately prior to its move to Winston-Salem recommended that graduate study leading to the Master's degree be resumed as soon as practicable. In 1958 the administration of the School of Medicine, in view of an increasing demand for graduate instruction in basic medical and clinical sciences, appointed a Committee on Graduate Studies for the purpose of reorganizing the graduate program.

As a result of these two parallel studies and in recognition of the need for an institution-wide approach to graduate education, the trustees, on January 13, 1961, established the Division of Graduate Studies and authorized it to grant the Master of Arts degree in the School of Arts and Sciences and the Master of Science and Doctor of Philosophy degrees in the School of Medicine. The first PhD degree was awarded in 1964. In 1967 the Master of Arts in Education degree was added to the graduate program in arts and sciences. A program, leading to the Master of Arts in Liberal Studies, was begun in the summer of 1987. The first PhD program on the Reynolda campus was begun in 1970.

Administration

The Graduate School is administered by one Dean and a Graduate Council composed of ex-officio administrative officials, twelve faculty members elected by the Graduate School faculty, and two graduate students elected by the Graduate Student Association. Six of the twelve are members of the College of Arts and Sciences (Reynolda campus) and six are members of the Wake Forest School of Medicine faculty (Bowman Gray campus).

Statement of Mission and Purpose

Wake Forest is a university dedicated to the pursuit of excellence in the liberal arts and in graduate and professional education. Its distinctiveness in its pursuit of its mission derives from its private, coeducational, and residential character; its size and location; and its Baptist heritage. Each of these factors constitutes a significant aspect of the unique character of the institution.

The University is now comprised of seven constituent parts: Wake Forest College, the Graduate School of Arts and Sciences, the School of Law, the School of Medicine, the School of Business, the School of Divinity, and the School of Professional Studies. It seeks to honor the ideals of liberal learning, which entail commitment to transmission of cultural heritages; teaching the modes of learning in the basic disciplines of human knowledge; developing critical appreciation of moral, aesthetic and religious values; advancing the frontiers of knowledge through in-

depth study and research; and applying and utilizing knowledge in the service of humanity.

Wake Forest has been dedicated to the liberal arts for over a century and a half; this means education in the fundamental fields of human knowledge and achievement, as distinguished from education that is technical or narrowly vocational. It seeks to encourage habits of mind that ask "why," that evaluate evidence, that are open to new ideas, that attempt to understand and appreciate the perspectives of others, that accept complexity and grapple with it, that admit error, and that pursue truth. Wake Forest College has by far the largest student body in the University, and its function is central to the University's larger life. The College and the Graduate School are most singularly focused on learning for its own sake; they therefore serve as exemplars of specific academic values in the life of the University.

Beginning as early as 1894, Wake Forest accepted an obligation to provide professional training in a number of fields, as a complement to its primary mission of liberal arts education. This responsibility is fulfilled in the conviction that the humane values embodied in the liberal arts are also centrally relevant to the professions. Professional education at Wake Forest is characterized by a commitment to ethical and other professional ideals that transcend technical skills. Like the Graduate School, the professional schools are dedicated to the advancement of learning in their fields. In addition, they are specifically committed to the application of knowledge to solving concrete problems of human beings. They are strengthened by values and goals which they share with the College and Graduate School, and the professional schools enhance the work of these schools and the University as a whole by serving as models of service to humanity.

Wake Forest was founded by private initiative, and ultimate decision-making authority lies in a privately appointed Board of Trustees rather than in a public body. Funded to a large extent from private sources of support, it is determined to chart its own course in the pursuit of its goals. As a co-educational institution it seeks to "educate together" persons of both sexes and from a wide range of backgrounds--racial, ethnic, religious, geographical, socio-economic and cultural. Its residential features are conducive to learning and to the pursuit of a wide range of co-curricular activities. It has made a conscious choice to remain small in overall size; it takes pride in being able to function as a community rather than a conglomerate. Its location in the Piedmont area of North Carolina engenders an ethos that is distinctively Southern, and more specifically North Carolinian. As it seeks further to broaden its constituency and to receive national recognition, it is also finding ways to maintain the ethos associated with its regional roots.

Wake Forest is proud of its Baptist and Christian heritage. For more than a century and a half, it has provided the University an indispensable basis for its mission and purpose, enabling Wake Forest to educate thousands of ministers and lay people for enlightened leadership in their churches and communities. Far from being exclusive and parochial, this religious tradition gives the University roots that ensure its lasting identity and branches that provide a supportive environment for a wide variety of faiths. The Baptist insistence on both the separation of church and state and local autonomy has helped to protect the University from interference and domination by outside interests, whether these be commercial, governmental, or ecclesiastical. The Baptist stress upon an uncoerced conscience in matters of religious belief has been translated into a concern for academic freedom. The Baptist emphasis upon revealed truth enables a strong religious critique of human reason, even as the claims of revelation are put under the scrutiny of reason. The character of intellectual life at Wake Forest encourages open and frank dialogue and provides assurance that the University will be ecumenical and not provincial in scope, and that it must encompass perspectives other than the Christian. Wake Forest thus seeks to maintain and invigorate what is noblest in its religious heritage.

Nondiscrimination Statement

Wake Forest University is committed to diversity, inclusion and the spirit of its motto, *Pro Humanitate*. In adherence with applicable laws and as provided by University policies, the University prohibits discrimination in its employment practices and its educational programs and activities on the basis of race, color, religion, national origin, sex, age, sexual orientation, gender identity and expression, genetic information, disability and veteran status.

The following person has been designated to handle inquiries regarding the University's non-discrimination policies:

Title IX Coordinator
Section 504/ADA Coordinator
titleixcoordinator@wfu.edu
Reynolda Hall 22 Winston-Salem, NC 27106
336-758-7258

Assistant Vice President Human Resources
AskHR@wfu.edu
2958 Reynolda Road, Winston-Salem, NC 27106
(336)758-4700

Deputy Title IX Coordinators have also been designated and represent various University schools/divisions. Contact information for each Deputy Coordinator can be obtained from the University's Title IX Coordinator.

Inquiries concerning the application of anti-discrimination laws may be referred to the individuals listed above or to the Office for Civil Rights, United States Department of Education. For further information on notice of non-discrimination, visit the Office of Civil Rights website (https://ocrcas.ed.gov/contact-ocr) for the address and phone number of the U. S. Department of Education office that serves your area, or call 1-800-421-3481.

Libraries

Overview

The libraries of Wake Forest University support instruction and research at the undergraduate level and in the disciplines awarding graduate degrees. The libraries of the University hold membership in the Association of Southeastern Research Libraries and HathiTrust.

The Wake Forest University libraries include: the Z. Smith Reynolds (ZSR) Library (https://zsr.wfu.edu/), located on the Reynolda Campus, supporting the undergraduate College, the Wake Forest School of Business, the Graduate School of Arts and Sciences, the School of Divinity, and the School of Professional Studies; the Law Library (http://library.law.wfu.edu/), housed in the Worrell Professional Center on the Reynolda Campus, serving the School of Law; and the Coy C. Carpenter Library (https://school.wakehealth.edu/Carpenter-Library) serving the Wake Forest School of Medicine and is located on the Bowman Gray Campus.

Collections

The three library collections total over 3.5 million titles, including over 2.6 million e-books, more than 190,000 electronic journals and over 220,000

streaming audio and video titles. The Law Library holds over 125,000 volumes and the Coy C. Carpenter Library holds over 30,000 volumes. The ZSR Library and the Law Library serve as selective federal depositories as a part of the Federal Depository Library Program. The three libraries share an online catalog, which provides access to books, electronic resources, journals, databases, and more. Through our interlibrary loan service (https://zsr.wfu.edu/delivers/ill/), students, faculty and staff may obtain materials from other libraries at no charge.

Z. Smith Reynolds Library

The Z. Smith Reynolds Library (ZSR) provides comprehensive reference and research services (https://zsr.wfu.edu/research/) in-person and online. Research Librarians work with individual classes across the disciplines on research projects and library users can request personal research sessions (https://zsr.wfu.edu/research/support/sessions/) with Research Librarians at all phases of their research process. Library faculty also teach elective courses in the fundamentals of research and information literacy and upper-level courses geared towards research in the disciplines and special topics in information. The Digital Initiatives & Scholarly Communication (https://zsr.wfu.edu/digital-scholarship/) librarians support faculty scholarship and student digital project coursework through consulting and instruction on tools, methodologies, project management, digital publishing, open education, data management, copyright, and open access. Reference (https://zsr.wfu.edu/research/support/) and online chat (https://zsr.wfu.edu/chat/) are available to help library users find resources and research assistance.

Special Collections & Archives (SCA) (https://zsr.wfu.edu/special/about/) serves as a research repository for rare, unique, and primary source materials in the Z. Smith Reynolds Library, including nearly 80,000 volumes and 15,000 linear ft. of collections. SCA acquires, preserves, and provides access to a wide range of primary research materials in their original formats, and in particular, seeks to better document underrepresented communities on campus. Major collections include the Baptist Historical Collection of North Carolina, Manuscripts, the Rare Book Collection, and the University Archives (https://zsr.wfu.edu/special/collections/archives/). SCA has a major outreach program offering events and presentations and also frequently hosts Wake Forest faculty and their classes. All are welcome to use the collections, a selection of which are available online in SCA Digital Collections (https://zsr.wfu.edu/special/collections/digital/), which currently numbers over 291,000 items. Please contact archives@wfu.edu for access to the collections by appointment or to submit a specific question.

Spaces

The Z. Smith Reynolds library has group study rooms equipped with large screen monitors and individual study carrels that can be booked online (https://wfu.libcal.com/reserve/). Windows PCs, Macintosh computers, and media viewing stations are available. Multimedia equipment, Chromebooks, tablets, and other devices may be reserved for checkout (https://zsr.wfu.edu/technology/equipment/). ZSR also offers a wide variety of accessories (https://zsr.wfu.edu/access/peripherals/), peripherals, and wellness items (https://zsr.wfu.edu/access/wellness-collection/) that students can borrow on a first-come, first-served basis. The library has a 118-seat auditorium that is available to Wake Forest community groups for programs, lectures, and film screenings.

ZSR houses The Bridge Service Desk (https://is.wfu.edu/services/service-desk/), The Studio (https://thestudio.wfu.edu/), the Center for the Advancement of Teaching (https://cat.wfu.edu/), the Office of Online Education (https://oe.wfu.edu/), CLASS Testing Center (https://class.wfu.edu/test-proctoring/), and The Writing Center (http://writingcenter.wfu.edu/). The Bridge provides hardware and software support for WFU students, faculty, and staff. The Studio provides resources and consultations to create digital projects. The Center for the Advancement of Teaching is a resource center for Wake Forest faculty at all stages of their careers. The Office of Online Education is a resource for faculty interested in designing and delivering online learning experiences in the courses they teach. The CLASS Testing Center provides a testing environment for students with approved disability accommodations. The Writing Center provides help to guide students through their writing process.

Access

ZSR Library is committed to creating an accessible, enriching, and welcoming community space for all. The library's hours vary by semester and can be found at https://zsr.wfu.edu/calendar/. Several large spaces are available via WFU Deacon OneCard entry even when the library is closed. These include over 200 seats of open study, reservable study rooms, vending machines, printers/copiers/scanners, and the library's bank of touchless smart lockers for pickup of requested materials. The Library also houses Smith's Cafe (https://dining.wfu.edu/locations/smithscafe-zsr-library/), our coffee shop. Check out the hours and events calendar (https://zsr.wfu.edu/calendar/) to stay up to date. See a full description of the ZSR Library resources and services at zsr.wfu.edu (https://zsr.wfu.edu/).

Bowman Gray Campus and Innovation Quarter

All faculty, staff and students in the Wake Forest University Graduate School of Arts and Sciences have full and unrestricted access to the Coy C. Carpenter Library of Wake Forest School of Medicine at its main facility on the first floor of the Gray Building. The Library is centrally located within the Wake Forest-affiliated hospital (Atrium Health Wake Forest Baptist Medical Center), and most of the resources are available online.

Technology

Information Technology / Academic Computing

Information Systems (https://is.wfu.edu/) supports University instruction, research, and administrative needs through computing and telecommunications services. The University's computing resources serve both academic and business needs. Wake Forest's network infrastructure includes a 10-gigabit-per-second Ethernet backbone, a mixture of 100-Megabit and 1-Gigabit-per-second switched connectivity to the desktop, and pervasive wireless connectivity in all campus buildings and select outdoor locations.

All students are given a WFU account. This account is maintained as long as the student is enrolled and provides access to networked computer resources such as electronic mail, client software packages, various courseware applications, and administrative services. Students are able to reset their forgotten password or change their expired password through a self-service password management portal, account.wfu.edu (https://account.wfu.edu/pwm/public/). Eduroam provides a secured WiFi network for visiting students to use their home institution's WiFi credentials to access WiFi network services. Our students can take advantage of this service by using their Wake Forest credentials when visiting other eduroam participating institutions.

Students have the option to bring their own computer device or purchase a laptop through the WakeWare (http://wakeware.wfu.edu) program. WakeWare provides students the opportunity to purchase a specially selected laptop configured to run academic technology at a negotiated price, bundled with extended warranties and protection, and provided with on-campus support. WakeWare evaluates new models, as available, to offer the most up-to-date technology to our students. WakeWare (http://wakeware.wfu.edu/) laptops have been thoroughly tested to ensure compatibility with academic software.

The Service Desk, a service center, located on the main floor of the Z. Smith Reynolds Library provides on-campus support for all IT-related questions and assistance. The Tech Shop, located in the Service Desk, is an authorized Apple, Dell, and Lenovo ThinkPad service center. With extended Service Desk hours, the online help portal, AskDeac (https://help.wfu.edu/), as well as Live Chat, there are extensive options for getting IT help. In addition, the IS website (https://is.wfu.edu/) provides timely announcements and in depth service-related content.

All students have access to licensed software and tools, via software@WFU (http://software.wfu.edu), for coursework, degree projects, and research; including SPSS, a statistical package used for data analysis, forecasting, and financial modeling; Maple; and Matlab, an interactive environment for algorithm development, data visualization, and data analysis.

Students also have access to computing resources outside the University. The University is a member of:

- The Inter-University Consortium for Political and Social Research (ICPSR), located at the University of Michigan. Membership in ICPSR provides faculty and students with access to a large library of data files, including public opinion surveys, cross-cultural data, financial data, and complete census data.
- EDUCAUSE, a national consortium of colleges and universities concerned with computing issues.
- Eduroam, a global wireless network access service for research and education, accessed using Wake Forest credentials.

Information Systems maintains an extensive array of online resources, including the Wake Information Network (WIN), Banner, and more, that support University admissions, student registration, grade processing, and other academic applications.

For advanced software with high computing requirements, WFU offers cloud-based virtualization. Engineering, among other departments, utilize a performance Workspace to run software, such as AutoCAD and COMSOL, needed for their Capstone Projects. The Wake Forest University Distributed Environment for Academic Computing (DEAC) cluster, a Linux-based High Performance Computing cluster provides supercomputing services academic research and coursework. These systems are available to students 24 hours a day through the Wake Forest University Network.

Students have unlimited access and full-time support using the One Button Studio (https://is.wfu.edu/services/one-button-studio/), a fully automated video production facility, located in Z. Smith Reynolds Library behind the IS Service Desk. Wake Forest also has a student run Makerspace, named the WakerSpace (https://wakerspace.wfu.edu/). The space allows students to not only build physical projects using technology such as 3D printers, laser cutters, and solder stations, but also to learn skills such as podcasting, knitting, sewing, and woodworking through workshop partnerships with Facilities, Information Systems, and other resources across campus. By offering both academic and non-academic programs, the WakerSpace serves a broad range of interests across campus.

Information Systems offers cable television and streaming services. All residence hall rooms are equipped with cable TV connections and/or the ability to stream cable TV. Cable and/or streaming services provide access to campus information, news, weather, select HDTV channels and DVR recording via Stream2 (https://is.wfu.edu/services/stream2/).

Calendars

2026-2027 Academic Calendar

On Campus Programs

Fall Semester 2026

Date	Day	Event
August 19	**Wednesday**	**Mandatory New Student Orientation**
August 24	Monday	Classes begin
August 27	Thursday	Last day to add Fall First Half of Term course sections
September 1	Tuesday	Last day to add Fall Term course sections
September 7	Monday	No Classes (Labor Day)
September 10	Thursday	Last day to drop Fall First Half of Term course sections
September 18	**Friday**	*Deadline to apply to graduate in December
September 23	Wednesday	Deadline for students with "I" grade to submit work to instructor
September 29	Tuesday	Last day to drop Fall Term course sections
October 8	Thursday	Deadline for instructors to report Incomplete ("I") grade change
October 10-13	Saturday - Tuesday	Fall Break
October 14	Wednesday	Classes end for Fall First Half of Term
October 15	Thursday	Classes begin for Fall Second Half of Term course sections
October 19	Monday	Last day to add Fall Second Half of Term course sections
October 19	Monday	Advising for Spring 2027 begins
November 2	Monday	Last day to drop Fall Second Half of Term course sections
November 3	Tuesday	Registration for Spring 2027 begins

November 13	**Friday**	**Deadline to submit thesis or dissertation to Graduate School office for review of format to graduate in December**
November 25 - 29	Wednesday - Sunday	Thanksgiving Holiday
December 7	Monday	Classes end
December 9 - 15	Wednesday - Tuesday	Final Examinations
December 11	**Friday**	**Last day to defend to graduate in December**
December 16	**Wednesday**	**Deadline for December graduation requirements including: Submit ETD Student Advisor Agreement to Graduate School office; Submit ETD (electronic thesis or dissertation) to ProQuest; Submit exit survey to Graduate School office**

Spring Semester 2027

Date	Day	Event
January 11	Monday	Classes begin
January 14	Thursday	Last day to add Spring First Half of Term course sections
January 18	Monday	No classes (Martin Luther King Jr. Day)
January 20	Wednesday	Last day to add Spring Term course sections
January 22	**Friday**	**Deadline to apply to graduate in May**
January 28	Thursday	Last day to drop Spring First Half of Term course sections
February 9	Tuesday	Deadline for students with "I" grade to submit work to instructor
February 16	Tuesday	Last day to drop Spring Term course sections
February 24	Wednesday	Deadline for instructors to report Incompleted ("I") grade change
March 1	Monday	Classes end for Spring First Half of Term
March 2	Tuesday	Classes begin for Spring Second Half of Term
March 5	Friday	Last day to add Spring Second Half of Term course sections
March 6 - 14	Saturday - 2nd Sunday	Spring Break
March 15	Monday	Registration for Summer 2027 begins
March 15	Monday	Advising for Fall 2027 begins
March 19	**Friday**	**Deadline to submit thesis or dissertation to Graduate School office for review of format to graduate in May**
March 25	Thursday	Last day to drop Spring Second Half of Term course sections
March 30	Tuesday	Registration for Summer/ Fall 2027 begins
April 16	**Friday**	**Last day to defend to graduate in May**
April 23	**Friday**	**Deadline for May graduation requirements including: Submit ETD Student Advisor Agreement to Graduate School office; Submit ETD (electronic thesis or dissertation) to ProQuest; Submit exit survey to Graduate School office**
April 26	Monday	Classes end
April 28-May 5	Wednesday - Wednesday	Final Examinations
May 15	Saturday	Hooding and Commencement Ceremony

2026 Summer Calendar (On Campus)

Summer Session I

May 27 – June 29, 2026

Date	Day	Event
May 27	Wednesday	Classes begin
May 29	Friday	Last day to add Summer First Half of Term course sections
June 2	Tuesday	Last day to add Summer Term course sections
June 8	Monday	Last day to drop Summer First Half of Term course sections
June 12	**Friday**	**Deadline to apply to graduate in August**
June 19	Friday	No Classes (Juneteenth)
June 23	Tuesday	Last day to drop Summer Term course sections
June 29	Monday	Last day of Summer First Half of Term
June 30	Tuesday	Final examinations begin for Summer First Half of Term
July 1	Wednesday	Final examinations end for Summer First Half of Term

Summer Session II

July 7 – August 6, 2026

Date	Day	Event
July 7	Tuesday	Classes begin
July 9	Thursday	Last day to add Summer Second Half of Term course s ections
July 10	**Friday**	**Deadline to submit thesis to Graduate School office for review of format to graduate in August**
July 17	Friday	Last day to drop Summer Second Half of Term course sections
July 31	**Friday**	**Deadline to defend to graduate in August**
August 7	Thursday	Last day of classes for Summer Second Half of Term and Summer Term
August 7	**Friday**	**Deadline for August graduation requirements including: Submit ETD Student Advisor Agreement to Graduate School office; Submit ETD (electronic thesis or dissertation) to ProQuest; Submit exit survey to Graduate School office**
August 7	Friday	Final Examinations begin for Summer Second Half of Term and Summer Term
August 8	Saturday	Final examinations end for Summer Second Half of Term and Summer Term

2026-2027 Academic Calendar

Counseling Program (Online)

Fall Semester 2026

Date	Day	Event
August 10-23	Monday-Sunday	Student Orientation Course for New Students
August 24	**Monday**	**First Class Day**
August 28	**Friday**	**Last day to add part-of-term 1 courses**
September 7	**Monday**	**Last day to add full semester courses**
September 9	Wednesday	Last day to drop without academic penalty (part-of-term 1)
September 11	Friday	Last day for withdrawal with pro rata refund (part-of-term 1) Deadline to submit intent to Graduate, December
September 18	**Friday**	**Deadline to submit Intent to Graduate Form for December graduation**
September 28	Monday	Last day to drop without academic penalty (full semester)
October 4	Sunday	Last day for withdrawal with pro rata refund (full semester)
October 11	**Sunday**	**Last Class Day (part-of-term 1)**
October 12	**Monday**	**First Class Day (part-of-term 2)**
October 16	**Friday**	**Last day to add part-of-term 2 courses**
October 28	Wednesday	Last day to drop without academic penalty (part-of-term 2)
November 2	Monday	Last day for withdrawal with pro rata refund (part-of-term 2)
November 3	Tuesday	Registration for Spring 2027 begins
November 23-29	**Monday-Sunday**	**Thanksgiving Break**
December 6	**Sunday**	**Last Class Day**
December 10-13	Thursday-Sunday	Residency I (Cohort 42), Residency II (Cohort 39)
December 16	Friday	Deadline to meet December Graduation Requirements - including exit survey

Spring Semester 2027

Date	Day	Event
December 28 - January 10	Monday-Sunday	Student Orientation Course for New Students
January 11	**Monday**	**First Class Day**
January 15	**Friday**	**Last day to add part-of-term 1 courses**
January 16	**Friday**	**Deadline to apply to graduate in May**
January 25	**Monday**	**Last day to add full semester courses**
January 29	Wednesday	Last day to drop without academic penalty (part-of-term 1)
January 29	Friday	Last day for withdrawal with pro rata refund (part-of-term 1)
February 15	Monday	Last day to drop without academic penalty (full semester)
February 21	Sunday	Last day for withdrawal with pro rata refund (full semester)
February 28	**Sunday**	**Last Class Day (part-of-term 1)**

March 1	**Monday**	**First Class Day (part-of-term 2)**
March 5	**Friday**	**Last day to add part-of-term 2 courses**
March 8-14	**Monday-Sunday**	**Spring Break**
March 23	Wednesday	Last day to drop without academic penalty (part-of-term 2)
March 24	Monday	Last day for withdrawal with pro rata refund (part-of-term 2)
March 30	Registration for Summer/Fall 2027 begins	
April 23	**Friday**	Deadline to meet May Graduation Requirements - including exit survey
April 25	**Sunday**	**Last Class Day**
April 29 - May 2	Thursday-Sunday	Residency I (Cohort 43), Residency II (Cohort 40)
May 15	Saturday	Hooding and Commencement Ceremony

2027 Summer Calendar

Counseling Program (Online)

Summer Semester 2027

Date	Day	Event
April 26-May 9	Monday-Sunday	Student Orientation Course for New Students
May 10	**Monday**	**First Class Day**
May 14	**Friday**	**Last day to add part-of-term 1 courses**
May 24	**Monday**	**Last day to add full semester courses**
May 26	Wednesday	Last day to drop without academic penalty (part-of-term 1)
May 28	Friday	Last day for withdrawal with pro rata refund (part-of-term 1)
June 11	Friday	Deadline to apply to graduate in August
June 14	Monday	Last day to drop without academic penalty (full semester)
June 17	Thursday	Last day for withdrawal with pro rata refund (full semester)
June 27	**Sunday**	**Last Class Day (part-of-term 1)**
June 28	**Monday**	**First Class Day (part-of-term 2)**
July 2	**Friday**	**Last day to add part-of-term 2 courses**
July 14	Wednesday	Last day to drop without academic penalty (part-of-term 2)
July 19	Monday	Last day for withdrawal with pro rata refund (part-of-term 2)
August 6	**Thursday**	*Deadline to meet August Graduation Requirements - including exit survey
August 15	Sunday	**Last Class Day**
August 19-22	Thursday-Sunday	Residency I (Cohort 44), Residency II (Cohort 41)

Procedures

All students are responsible for familiarizing themselves with the portions of this bulletin that pertain to their course of study. Statements concerning courses and expenses are not to be regarded as irrevocable contracts between the student and the institution. The university reserves the right to change the schedule of classes and the cost of instruction at any time within the student's term of residence.

Admissions

How to Apply

Information on the application process, as well as a link to the online application may be found on the Graduate School's website at http://graduate.wfu.edu/admissions.

Eligibility

Undergraduate seniors and graduates of accredited U.S. colleges and universities or recognized foreign institutions may apply for admission to the Graduate School. Undergraduates must complete their degree requirements prior to entering the Graduate School.

Whatever their previous academic training may have been, all applicants should have superior records. This requirement is usually interpreted as at least a B average or standing in the upper quarter of the class or both.

Students with Disabilities

Wake Forest University will consider the application of any qualified student, regardless of disability, based on the selection criteria established by the University which includes personal and academic merit. Upon matriculation, all students will be required to meet the same standards for graduation.

The University endeavors to provide facilities which are in compliance with all laws and regulations regarding access for individuals with disabilities. Additionally, special services are available to reasonably accommodate students with disabilities. For more information on assistance for graduate students, please visit the Center for Learning, Access, and Student Success (https://class.wfu.edu).

Admission Categories

Regular Status in a Degree Program. A person with a superior undergraduate record (at least a B average or upper quarter of the class and with the appropriate courses), satisfactory GRE scores (where required), TOEFL or IELTS scores (for international students), and/or good recommendations may apply for regular admission.

Unclassified Non-Degree Graduate Status. Applicants seeking courses for graduate credit, but not wishing to formally seek a graduate degree, may apply for admission as an unclassified or non-degree seeking student. Applicants are required to complete an application, submit the application fee, meet the immunization requirements, and submit an official transcript showing a baccalaureate degree. Instructor approval is required for each course prior to enrollment.

Classification of Admitted Students

Full-Time Status. A student who devotes full-time effort to a graduate program as outlined by his or her faculty committee with a minimum of 9 semester hours of coursework in fall, spring, and summer terms, including thesis research, is considered a full-time student.

Part-Time Status. A student registered for less than the above amount of coursework is considered a part-time student. Each program will determine whether it is possible to pursue a degree on a part-time basis.

Continuous Enrollment

Degree-seeking students must have continuous enrollment through the semester in which they graduate. Continuous enrollment may be achieved by registering for courses, including research, internship, or project hours, or by registering for Grad Fee. Failure to maintain continuous enrollment may result in a student being administratively withdrawn from the Graduate School.

Cost of Attendance

Detailed Cost of Attendance is available for Reynolda students at: http://grad.financialaid.wfu.edu/cost-of-attendance/

All students will be required to acknowledge the "Wake Forest University-Statement of Financial Responsibility" as part of the new and continuing onboarding process via Workday Student; this allows students to clearly understand financial policies. All students have a Student Financial Services- Financial Responsibility Statement Not Acknowledged" hold on their Workday student account until acknowledgement is made.

Tuition Schedule

Fee	Amount
Full-time (minimum 9 hours)	$38,650 (per year)
Part-time	$1,700 (per hour)
On-line Programs	$1,700 (per hour)
Summer Session 2026 Graduate Programs	$1,700(per hour)
Summer Session 2026 Online Counseling Programs	$1,700 (per hour)

Fees

Fee	Amount
Wellness Fee (can be waived)	$211 (per semester)
Audit Fee	$150 (per hour)
Student Continuation Fee	$150 (per semester)
Application Fee	$80 (per application)
Technology Fee	$75 (per semester, excludes On-line programs)
Student Health Fee	$312 (per semester)

Tuition Concession

There is a tuition concession plan for faculty and staff of the University and for the spouses of faculty and eligible staff members. If the Graduate School offers a faculty or staff member a scholarship, that scholarship is designated for tuition and the tuition concession benefit will be applied to net remaining tuition and fees after the tuition scholarship has been applied. For further information, contact the Human Resources office.

Tuition for Courses Taken on the Bowman Gray Campus

During fall and spring terms, full-time graduate students may take graduate courses on the Bowman Gray campus without additional tuition. Summer terms are excluded.

University Fees

A Deacon Health fee of $312/semester is charged for all students, excluding on-line programs. A Technology fee of $75/semester is charged to all students, excluding on-line programs. A Student Wellness fee of $211/semester is charged to all students, excluding on-line programs; this fee can be waived in Workday.

Past Due Balances

Students with accounts that are not paid in full by these deadlines may experience certain consequences, including, but not limited to, not being eligible to:

- Register for future semesters
- Return from leave of absence
- Be reinstated as a student

The hold will be lifted automatically as soon as a payment is processed that covers the outstanding balance.

Financial Aid

Full-tuition scholarships, partial-tuition scholarships, fellowships, graduate assistantships, teaching assistantships, and research assistantships are available to qualified students. Assistantships and fellowships may include tuition scholarships as well as a stipend. Students receiving a stipend may be required to work 15-20 hours weekly and carry a normal course load.

Acceptance of an assistantship or fellowship carries with it the obligation to perform duties assigned by the student's department. Some students may be assigned duties outside the department of study. Unsatisfactory performance may result in the withdrawal of the stipend.

Assistantships and fellowships are potentially renewable, but the total number of years a student working toward the master's degree may not exceed two.

The residence life and housing office has a limited number of hall director and compliance advisor positions available to qualified graduate students. Interested students are urged to contact the Office of Residence Life and Housing for more information by visiting the employment section of www.wfu.edu/housing (http://www.wfu.edu/housing).

The Graduate School may award educators teaching full-time in public schools or state-approved, non-public schools a one-half scholarship of

the cost of part-time tuition. This policy covers only educators who have a current contract and teach either in grades kindergarten through 12th or in community college institutions.

Student Loans

Students may submit a FAFSA to determine eligibility for the Federal Direct Unsubsidized loan program. A graduate student must be enrolled at least half-time as a degree seeking student to be considered for federal student aid. The Wake Forest University Graduate School of Arts & Sciences FAFSA school code is: E00429.

A student must be in good academic standing and must be making satisfactory academic progress toward the degree to be eligible for a student loan. Unclassified (non-degree seeking), certificate program students, and provisionally accepted students are not eligible for federal financial aid.

Graduate School Scholarship Awards

A limited number of merit-based scholarships are available for highly qualified students. Any student interested in awards should contact their program director for additional information.

Policy on External Compensation

A student supported on a stipend from the Graduate School, faculty grant, student fellowship, or other sources may be allowed to engage in additional compensatory work with permission from his or her advisor, provided the work does not delay or interfere with the duties required for timely completion of the degree. A student who receives a tuition scholarship may engage in outside compensatory work without approval from the Graduate School. All students will be monitored for satisfactory academic progress.

Satisfactory Academic Progress

To determine continuing financial aid eligibility, the financial aid committee evaluates the student's satisfactory academic progress at the end of each term. The receipt of federally controlled aid requires half# time enrollment (4.5 or more hours) in a degree seeking program during the fall and spring semesters. In addition to the enrollment requirements, a minimum cumulative grade point average of 2.5 on work attempted in the Wake Forest University Graduate School of Arts and Sciences is required. Certain programs have higher academic requirements, which are communicated directly to the students by the programs. More detailed information can be found at: https://grad.financialaid.wfu.edu/policies/. The Dean may revoke institutionally controlled financial aid for violation of University regulations, including its Honor Code, or for violation of federal, state, or local laws.

Enrollment and Procedures

Student Rights and Responsibilities

The graduate faculty has adopted a formal statement regarding student rights and responsibilities. The statement is a guideline to be used by students with respect to an Honor Code which applies to both teaching and research endeavors. It also includes clearly defined procedures for the handling of student grievances should they arise. This statement may be accessed in the Student Handbook found on the Graduate School website on the following page under the heading **Rules and Policies**: https://graduate.wfu.edu/reynolda-campus-homepage/

Honor Code & Grievance Procedures

The Honor Code provides guidance for student conduct with respect to academic pursuits. The faculty liaison on the Reynolda campus is the Associate Dean for Students. This policy may be accessed at the Graduate School website on the following page under the heading **Rules and Policies**: https://graduate.wfu.edu/reynolda-campus-homepage/.

Graduate School Non-Academic Code of Conduct

The Graduate Faculty has adopted a formal policy to provide guidance for students with respect to non-academic conduct. This policy may be accessed at the Graduate School website on the following page under the heading **Rules and Policies**: https://graduate.wfu.edu/reynolda-campus-homepage/.

RCR Training

Graduate students involved in research on the Reynolda campus must complete the basic curriculum Responsible Conduct of Research (RCR) before engaging in research. The modules in this brief course cover basic information on research involving human subjects, research misconduct, data management, plagiarism, authorship, collaborative research, peer review, mentoring and healthy research environments, and conflicts of interest and commitment. Supplemental training modules are available but not required. The certification lasts for 4 years, so students will need to retake the module at the time of expiration. For access to the CITI RCR training module, go here: https://research.wfu.edu/office-information/compliance-management/responsible-conduct-of-research/.

Patents Policy

During a student's course of study, he or she may participate in research or other work which leads to an invention or discovery. These inventions or discoveries are the property of the University. The University's Inventions and Patent Policy is applicable to student inventions with respect to the definition of inventions covered, resolution of disputes, and the division of proceeds, including the determination of the inventor(s) share of any proceeds. Under this policy, a program exists to determine patentability and commercial value of each invention. Further information can be found at the Office of Research and Sponsored Programs' website under WFU Reynolda Campus Policies https://research.wfu.edu/office-information/policies/.

Copyright Policy

The Copyright Policy of Wake Forest University is intended to:

1. Encourage research and teaching by rewarding the authors of intellectual works, assisting them in implementing their ideas, and by providing a system for the encouragement of scholarship and creative activity;
2. Serve the public interest by providing means through which intellectual works may be made available to the public; and
3. Protect the rights of the University, its faculty, its staff, and its students regarding intellectual works developed at the University.

Further information can be found at https://policy.wfu.edu/copyright-policy (https://policy.wfu.edu/copyright-policy/)/.

Course Registration

Repeating a Course

A graduate student may repeat a course in which a B- or lower grade has been received. The course may be counted only one time for credit. The higher grade earned will be counted in calculation of grade point average. Both grades will appear on the transcript. In addition, federal financial aid rules dictate that federal aid can only be used twice for the same graded course.

Adding/Dropping a Course

During the Add/Drop period, a student may drop a course without penalty or notation on the transcript. After the Add/Drop period, a student may drop a course with the approval of the Dean of the Graduate School, the program, and the student's faculty advisor. Dropped courses are not counted in determining the grade point average. Students are responsible for officially dropping courses to be eligible for a refund of tuition. Nonpayment for courses for which a student is registered or non-attendance in a registered course does not release the student from financial obligation, nor does it result in a student being dropped from the course.

Auditing a Course

Auditing a course consists of participation in a course without receiving a letter grade or credit hours. When space is available after registration of students enrolled for credit, others may request permission of the instructor to enter the course as auditors. No additional charge is made to full-time students; however, an audit fee is assessed for non-degree seeking students. An auditor is subject to attendance regulations and other requirements of performance established by the instructor. Although an auditor receives no credit, a notation of audit is made on the transcript.

Transfer Credit

Transfer of graduate credits earned at other universities

A graduate course that was completed at another college or university may be considered for transfer credit, provided that the course was taken at an accredited institution in the United States, the course was not taken as part of a previously earned credential, and the grade earned is equivalent to a B or higher. The hours are counted toward the total earned for graduation, but the grades are not calculated in the GPA. The maximum number of hours that may be transferred toward a master's degree is six and is not limited for PhD degree candidates.

Transfer of graduate credits earned in a graduate degree program at Wake Forest University

A graduate course that was completed in another graduate or professional program may be considered for transfer, provided that the course was not counted toward the first credential and a grade of B or higher was earned. The maximum number of hours that may be transferred is six.

Students intending to follow their mentor and enroll at Wake Forest University

A student intending to follow their mentor from another institution must apply using the standard application processes. Credits may be transferred if the criteria described for the transfer of credits earned at other universities are met, and the student has not yet advanced to candidacy. A student who has advanced to candidacy prior to enrolling at Wake Forest University should also remain a student at their current institution.

Grading

Grade of I

The grade of "I" (incomplete) may be assigned only when a student fails to complete the work of a course because of illness or some other emergency. If the work recorded as "I" is not completed within 30 days after the student enters his/her next semester, not counting the summer session, the grade automatically becomes "F". The instructor must report the final grade to the registrar within 45 days after the beginning of that semester. In no case is a graduate degree awarded to a student who has an "I" on record.

Grade of NR

The grade of NR (Not Reported) must be resolved within forty-five days after the beginning of the student's next enrolled term or will automatically become an F. A degree will not be awarded to a student who has an NR on their record.

Grade of U (Unsatisfactory) in Thesis/ Dissertation Research

A student who receives a U in research may be placed on academic probation even if the student's cumulative GPA is above 2.5. A student who receives a grade of U in research in two consecutive semesters may be dismissed from the Graduate School by the Dean upon recommendation of the program.

Minimum Grade Requirements

A student whose cumulative grade point average (GPA) falls below 2.5 may be placed on academic probation. The student will have one semester to bring their GPA to 2.5 or greater; otherwise, may be dismissed from the Graduate School by the Dean. The GPA is obtained by dividing the total number of grade points earned by the total number of hours attempted, including hours for courses in which the grade earned is an F. Satisfactory/Unsatisfactory and pass/fail grades do not factor into the GPA calculation.

Grades Assigned	Grade Points
A Excellent	4.00
A-	3.67
B+	3.33
B Good	3.00
B-	2.67
C+	2.33
C Low Pass	2.00

Grades Assigned	Description
F	Failed (counted as hours attempted)
I	Incomplete (becomes passing grade or F)
P	Pass
S	Satisfactory
U	Unsatisfactory

AUD	Audit
DRP	Official Drop (not counted as hours attempted)
NC	No credit
NR	Grade not reported (becomes passing grade or F)
WD	Withdrew (not counted as hours attempted)
WP	Withdrew passing (not counted as hours attempted)
WF	Withdrew failing (not counted as hours attempted)

Individual programs may require a higher GPA than 2.5 for ongoing enrollment and is stated in their program policies. A student may be dismissed from the Graduate School by the Dean upon recommendation of the program if the student is failing to make adequate progress in research.

PhD candidates must have a GPA of 3.0 at the time of the preliminary examination. The minimum GPA required for graduation is 3.0 for awarded degrees and earned certificates.

Changes in Status

Leave of Absence

A leave of absence allows an enrolled student to interrupt his or her studies for a compelling reason, for example, a medical condition or a personal matter. A leave of absence is defined as a temporary separation from the Graduate School. To be eligible for a leave of absence, students should be in good academic standing, fulfilling research, service and course obligations. Students must submit a Request for a Leave of Absence form to the Graduate School office. The form also requires international students to obtain approval from the International Student and Scholar Services office.

The maximum time for a leave of absence is one year and will not be granted retroactively. A student must withdraw from current registered course(s) before requesting a leave. A leave of absence is only granted between terms.

Students must submit a request to return to the Graduate School office at least one month prior to the beginning of that term. If a decision has been made not to return the student should inform the Graduate School office. Failure to petition to return will result in withdrawal and the student will need to reapply for admission.

Unless allowed by the funding agency or source supporting the student's stipend, a student may not qualify for stipend support during a leave of absence. In all cases, the guidelines provided by the supporting agency will apply. Students are encouraged to consult the agency program officials to determine the specific guidelines governing leaves of absence.

Approved leaves automatically extend milestone deadlines by the length of the leave. This includes university and departmental requirements such as the qualifying exam deadline and prospectus deadline for PhD students, and the degree deadline. Leaves do not exempt students from meeting the residency requirement.

Students may not fulfill any degree requirements including work on a thesis, dissertation, or other degree requirements during the time on leave.

In order to facilitate communication between the student and the Graduate School, access to the campus network will be continued during the leave but will be deactivated if the student does not return.

Students must consult with their health insurance provider about the status of their policy while on leave. Students who have contracted for health insurance through the university should immediately contact the Student Health Insurance Coordinator. Health insurance is subject to federal and state laws and regulations.

Students on an approved leave are not eligible for federal financial aid, including Federal Direct Loans. In some cases, student loans may not be deferred for the entirety of a leave. Students should contact the Financial Aid office for more information.

Accommodation for Students of Faculty who Leave the Institution

In the case where a student has advanced to candidacy, and their faculty advisor leaves the institution prior to completion of their degree, the Thesis/Dissertation Committee is responsible for recommending an appropriate plan for the completion of the degree. The plan should address the following: support of stipend and research funding (including lab space), designation of a primary mentor, and designation of a manager to carry out the plan. This plan must be submitted within six weeks of the faculty member's resignation and approved by the Dean.

In the case where a student has advanced to candidacy and chooses to leave the institution with their faculty advisor, the student will be required to register for Grad Fee until degree completion. In the case where a student has not yet advanced to candidacy and chooses to leave the institution with their faculty advisor, the student will be required to withdraw and transfer to the new institution.

Withdrawal from the University

Students planning to withdraw must complete the steps in Workday. A student who withdraws by the drop date as established by the academic calendar will have a grade of WD (withdrawn) assigned for courses in progress. A student who withdraws after the drop date will be assigned a grade of WP (withdraw-passing) or WF (withdraw-failing) for each course in progress. The withdrawal date for a student enrolled on campus will be determined by the date of last active participation. The withdrawal date for a student enrolled in an on-line program will be determined by the last time the student participated in an online discussion or made contact with a faculty member. Simply logging into a course is not determinative of participation in the course.

Reinstatement

A student who has withdrawn and plans to return within one academic year must request reinstatement to the Graduate School office at least one month prior to the semester in which they want to re-enter. To be reinstated the student must be in good academic standing and receive approval from the graduate program and the Dean of the Graduate School. The time spent while withdrawn will not count in the maximum time allotted for the degree. After one academic year students planning to re-enter must reapply for admission by the application deadline and

must be recommended by the program and accepted by the Dean of the Graduate School.

If a student is approved for readmission within a five-year period, previous coursework may count towards the degree requirements with the recommendation of the program and the approval of the Dean. If the student re-enters after a five-year period, previous courses will not count towards the degree requirements.

Administrative Withdrawal

A student may be administratively withdrawn under the following circumstances:

- Failure to pay tuition
- Tenure exceeds the maximum length
- Failure to maintain continuous enrollment
- Failure to attend classes or conduct research for a significant period
- Honor code determination recommends withdrawal
- Non-academic code of conduct determination recommends withdrawal

Dismissal

A student who is failing to make satisfactory academic progress, determined based on the GPA, multiple Failed research grades, or as determined by the program, may be dismissed from the Graduate School.

Refunds

Refund of Charges Policy and Return of Financial Aid Funds Policy

A student who officially withdraws or is granted continuous enrollment status during a semester may be entitled to a refund of tuition and dining charges depending on the student's date of withdrawal, and/or date of continuous enrollment status. Online Counseling Programs are refunded according to the Refund Policy for Online Counseling Programs.

Tuition refunds are based on the date of official withdrawal or the effective date of continuous enrollment status. Please refer to the official "Schedule of Refunds for Withdrawal or Continuous Enrollment" for the respective semester of enrollment. Refunds will be reduced by the amount of any outstanding charges on a student's account. If refunded charges leave a credit balance on the student account, the student is responsible for completing an online student refund request at (http://finance.wfu.edu/sfs/student-refund/) or the credit balance will remain on the student account and will be applied for future semesters. If the credit is a direct result of Title IV aid, the credit is automatically refunded to the student.

Vehicle registration fees will not be refunded unless the issued permit is returned to Transportation and Parking Services before the first day of class. Students graduating or studying abroad for spring semester may receive a prorated refund of the vehicle registration fee by returning the issued permits to the Transportation and Parking Services office.

Schedule of Refunds for Withdrawal or Continuous Enrollment

Fall & Spring Semesters

Official Date	Tuition Refunded
Before semester begins	100% tuition, less deposit
First week of semester	85%
Second week of semester	75%
Third week of semester	50%
Fourth week of semester	30%
Fifth week of semester	20%
After fifth week of semester	0%

Summer Sessions I & II (6 week sessions)

Official Date	Tuition Refunded
First three days of session	100% tuition, less deposit
Fourth day of session	75%
Fifth day of session	50%
Sixth day of session	25%
After sixth day of session	0%

Full Summer Session (12 week session)

Official Date	Tuition Refunded
First five days of session	100% tuition, less deposit
Sixth - Ninth day of session	75%
Tenth - Twelfth day of session	50%
Thirteenth - Fifteenth day of session	25%
After fifteenth day of session	0%

There are no refunds for mandatory fees after the first class day in a semester as reflected in the academic calendar.

Students are responsible for officially dropping courses to be eligible for an adjustment. Nonpayment for classes for which you are registered or non-attendance in a registered class does not release you from financial obligation and will not drop you from the class.

A student using scholarships, grants, or loans to help pay educational expenses, whose account was paid-in-full prior to withdrawal, is likely to owe the University after withdrawal. Return of Title IV funds are handled in accordance with federal law. Students should consult the Office of Financial Aid for more information.

Tuition, fees, housing, dining and all other charges will not be refunded when a student is suspended or expelled from the University as a result of a conduct or honor code violation. Return of Title IV funds are handled in accordance with federal law.

* Refunds will be reduced by the amount of any outstanding charges on a student's account.

Pursuant to The Veterans Benefits and Transition Act of 2018

GI Bill® and VR&E beneficiaries (Chapter 33 and Chapter 31 beneficiaries) may attend a course of education or training for up to 90 days from the date the beneficiary provides to the VA Certifying Official ONE of the following:

- A Certificate of Eligibility, or a Statement of Benefits obtained from the VA's eBenefits web site
- VR&E (Chapter 31) authorization, delivered via the Tungsten Network system
- Notification of intent to use benefits, pending confirmation of eligibility via the VA's Enrollment Manager system.

The student beneficiary must provide proof no later than the first day of a course of education. The student must provide any additional payment amount due that is the difference between the amount of the student's financial obligation and the anticipated amount of the VA education disbursement to Wake Forest University.

This policy allows a student to attend the course until the VA provides payment to Wake Forest University. Wake Forest University will not impose a penalty, or require the beneficiary to borrow additional funds to cover tuition and fees due to late payments from the VA.

University Disruption Refund Policy

Circumstances may arise during a semester that cause significant disruptions to University operations and result in the University closing the campus. These circumstances include, without limitation, extreme weather, fire, natural disaster, war, labor disturbances, loss of utilities, riots or civil commotions, epidemic, pandemic, public health crisis, power of government, or any other circumstance like or unlike any circumstance mentioned above, which is beyond the reasonable control or authority of the University.

In the event of a significant disruption to University operations either:

- During a semester that results in the University closing campus for the remainder of the semester;
- At the beginning of a semester that delays or prevents the University opening campus; or
- During a semester that results in the University closing campus temporarily during the semester

The University will issue refunds for housing and dining charges and wellness and parking fees to students where applicable and according to the refund schedule below. There will be no refunds for tuition or Deacon Health, Student Activity, or any other fees paid by or on behalf of students. Refunds (if applicable) will be calculated at the end of the semester.

This policy applies to significant disruptions where the University closes campus. It does not apply where students officially withdraw from the University or are officially granted continuous enrollment status during a semester. Refunds, if any, in those circumstances are governed by the University's Refund of Charges Policy.

Fall & Spring Semesters - University Disruption Refund Schedule

Number of Whole or Partial (Sunday-Saturday) Weeks When Campus is Open	Refund Percentage
0	100%
1	85%
2	78%
3	71%
4	64%
5	57%
6	50%
7	43%
8	36%
9	29%
10	22%
11	15%
12	10%
13	No Refund
14	No Refund
15	No Refund
16	No Refund

Summer Sessions I & II (6 week sessions) - University Disruption Refund Schedule

Number of Whole or Partial (Sunday-Saturday) Weeks When Campus is Open	Refund Percentage
0	100%
1	75%
2	50%
3	25%
4	No Refund
5	No Refund
6	No Refund

Full Summer Session (12 week session) - University Disruption Refund Schedule

Number of Whole or Partial (Sunday-Saturday) Weeks When Campus is Open	Refund Percentage
0	100%
1	85%
2	75%
3	65%
4	55%
5	45%
6	35%
7	25%
8	15%
9	No Refund
10	No Refund
11	No Refund
12	No Refund

The statements concerning expenses are given as information to prospective students. They should not be regarded as forming a contract between the student and the University. The costs of instruction and other services outlined here are those in effect on the date this material was printed. Wake Forest University may change the cost of instruction and other services at any time.

Student Wellness

Deacon Health

The mission of Deacon Health (DH) is to ***promote and advance the health and wellbeing for all students***. A physician-directed medical staff offers primary care services, urgent care, illness care, physical examinations, counseling, limited psychiatric care, allergy injections, immunizations, radiology, gynecological services, pharmacy, laboratory, sports medicine clinic, referral to specialists, and medical information and vaccinations related to travel to international destinations.

Deacon Health Portal

Students can schedule most appointments online through the Deacon Health Portal (https://wfu.studenthealthportal.com/PyramedPortal/). The portal serves as a secure place to make appointments, view published labs, print off a copy of your immunization history on file, print receipts, and securely communicate with our clinic. Notifications of appointment reminders and secure messages from the clinic will be sent to your WFU email address. Students should book an appointment before coming to our clinic either through the Deacon Health Portal, or by contacting us at apptshs@wfu.edu or 336.758.5218. There will be a wait to see a medical provider if you come into the clinic without an appointment.

Medical Charges

For full-time Reynolda Campus students, there is no additional cost to be seen at Deacon Health. However, there may be some additional costs for specific treatments, labs, supplies and prescriptions unless you are on the Student Health Insurance Plan (Student Blue (https://shi.wfu.edu/)). Part-time students will be responsible for any charges incurred. In addition, there are discounted "fee-for-service" charges for medications, laboratory tests, observation care, procedures, and some supplies. Payment can be made via check, Deacon OneCard, Student Blue Insurance (https://shi.wfu.edu/), or the charge can be transferred to the student's account in Office of Financial and Accounting Services. Each student is given a copy of the medical charges incurred on the date of service which can be used for insurance filing. DH does not participate in nor file insurance claims on behalf of the patient.

Radiology

Through a partnership with Atrium Health/Wake Forest Baptist, DH offers on site X-rays. Through this arrangement, Atrium Health, Wake Forest Baptist will be able to bill your medical insurance for these services. All billing will be handled by Atrium Health/Wake Forest Baptist and the remaining portion after your insurance processes the claim will be your responsibility.

Confidentiality

Student medical records are confidential. Medical records and information contained in the records may be shared with therapists and physicians who are involved in the student's care, and otherwise will not be released without the student's permission except as allowed by law. Students who wish to have their medical records or information released to other parties should complete a release of information form at the time of each office visit or service.

Class Excuses

The faculty is responsible for excusing students from class. Consequently, DH does not issue excuse notes for students. Students who are evaluated at DH are encouraged to discuss their situations with their professors. A receipt documenting visits is available through the portal. Students may grant permission for Deacon Health to communicate to the Office of Academic Advising when prolonged illness or hospitalization occurs.

Student Insurance Program

Health insurance is required as a condition of enrollment for all degree-seeking* students at Wake Forest University. Students who demonstrate comparable coverage to WFU's health insurance plan and meet our criteria may waive the coverage provided by WFU. *Specific information about the policy plan, process instructions and full information regarding eligibility can be found at shi.wfu.edu (https://shi.wfu.edu/).

Severe Weather

When the University is closed due to severe weather, DH may have limited staff and may be able to provide care only for injuries and urgent illnesses. Appointments may be rescheduled.

Retention of Medical Records

Student medical records are retained for 10 years after the last treatment, after which time they are destroyed. Immunization records are kept longer.

* For full-time Reynolda Campus students, there is no additional cost to be seen at Deacon Health. However, there may be some additional costs for specific treatments, labs, supplies and prescriptions unless you are on the Student Health Insurance Plan (Student Blue (https://shi.wfu.edu/)). Part-time students will be responsible for any charges incurred.

Deacon Health Information and Immunization Form

All new undergraduate and graduate students are required to be up to date with required vaccines. You and your healthcare physician need to complete the health information and immunization forms (HIIF) available in your Deacon Health Portal (https://wfu.studenthealthportal.com/PyramedPortal/). For steps to upload your documentation visit the Deacon Health website (https://deaconhealth.wfu.edu/new-students/immunization-requirements/#20230414143115).

Immunization Policy

North Carolina State Law (G.S. 130A-152) and Wake Forest University policy require documentation of certain immunizations for students attending Wake Forest. Students must submit certification of the immunizations set forth below or request and receive approval for a medical or religious exemption **PRIOR TO REGISTRATION**.

The statute applies to all students except the following:
Students residing off-campus and registering for any combination of:

- Off-campus courses
- Evening courses (classes beginning after 5 p.m.)
- Weekend courses
- No more than four day credit hours in on-campus courses

Read the complete immunization policy on the Deacon Health website (https://deaconhealth.wfu.edu/new-students/immunization-requirements/).

Counseling Center

The University Counseling Center, located in 117 Reynolda Hall (Reynolda Campus), provides short-term counseling and consultation to currently

enrolled Reynolda Campus students. All services are confidential, and no fees are charged to students.

The Center offers counseling for a variety of concerns including depression, anxiety, personal adjustment, disordered eating, managing stress, sexuality, and relationship issues.

The Center is open Monday-Friday from 8:30 a.m. to 5:00 p.m. whenever the University is operating. A crisis counselor is available by phone after-hours and on weekends 365 days a year by calling the University Counseling Center: 336-758-5273. For more information visit https://counselingcenter.wfu.edu/.

Requirements for Degrees

Degrees Offered

The Graduate School of Arts and Sciences offers graduate programs leading to the Master of Arts, Master of Arts in Education, Master of Arts in Human Services, Master of Fine Arts, Master of Science, and Doctor of Philosophy degrees.

Thesis/Dissertation Committee Composition

For Master's degrees: When required, a thesis is written under the supervision of the student's advisory committee. The committee must have no fewer than three members, including the advisor from the program, a second reader from within the program who serves as the committee chair, and a third reader from outside the program or from the student's area of concentration.

For the PhD degree: The examining committee for the dissertation must have no fewer than five members, including the program director or a graduate faculty member chosen by the program director, the student's advisor, another member of the department, a representative from a related area from within or outside the department, and a member from outside of the major department; this last member represents the Graduate Council and serves as the chair of the committee.

For all degrees: All members of the student's advisory or examining committee should be members of the graduate faculty. With the approval of the advisor, a student may recommend for their committee no more than one person who is not on the graduate faculty to serve as a voting member. This person may not fill the position of committee chair, and only in exceptional circumstances may act as the advisor. The program director or advisor can nominate this person for temporary graduate faculty status and must justify the participation of this person based on research, publications, and/or professional activities in an email to the Senior Associate Dean of the Graduate School requesting approval. This email should include the proposed committee members' curriculum vitae.

Final Examination Assessment

The defense must take place by the stated deadline on the academic calendar, or the student will be required to register for a subsequent semester to have their degree conferred. The examination validates the work stated in the thesis/dissertation and demonstrates knowledge in the related areas. The possible committee decisions are unconditional pass, pass upon rectifying minor deficiencies, pass upon rectifying major deficiencies, and fail. If a student fails, they may be reexamined only once.

Unconditional Pass

If all committee members agree that the student has passed unconditionally, there is consensus to pass the examination. The committee chair will sign and submit the ballot to the Graduate School office.

Pass Upon Rectifying Minor Deficiencies

If reservations are expressed by committee members, the chair of the committee will ensure that the reservations are communicated to the student and the Dean by signing and submitting the ballot to the Graduate School office. The student and the advisor are jointly responsible for ensuring that the thesis/dissertation is modified to address the committee's reservations.

Pass Upon Rectifying Major Deficiencies

If reservations are expressed by committee members, the chair of the committee will ensure that the reservations are communicated to the student and the Dean by signing and submitting the ballot to the Graduate School office. The student and the advisor are jointly responsible for ensuring that the thesis/dissertation is modified to address the committee's reservations.

Fail

If, in the opinion of more than one member of the examining committee, the student has failed the examination, there is no consensus to pass. The chair of the committee will advise the student that the thesis/dissertation fails to meet the requirements of the Graduate School. The chair will ensure that the student knows the reason(s) for failure and will submit the ballot to the Graduate School office. If the student resubmits or submits a new thesis/dissertation for consideration, at least three members will be drawn from the original committee. If the modified or new thesis/dissertation fails to meet the requirements, the student will be dismissed.

Requirements for Master's Degrees

Programs of study leading to the Master's degree are offered in Bioethics, Biology, Chemistry, Communication, Computer Science, Content Creation and Strategic Storytelling, Counseling, Documentary Film, Education, English, Health and Exercise Science, Liberal Arts Studies, Mathematics, Physics, Psychology, Quantum Information Sciences, Statistics, and Sustainability.

Residence Requirements

In general, a minimum of one academic year of full-time work (or the equivalent in Wake Forest online instruction) is required.

General Course Requirements

Required coursework must be taken for a grade and cannot be taken as Pass/Fail unless they are offered only on that basis. GRD courses cannot be used toward degree requirements. Students should consult with individual programs for specific course requirements.

Foreign Language or Special Skills Requirement

Some programs may require students to demonstrate a reading knowledge of an appropriate foreign language or competency in one or more special skills. Students should consult with individual programs for special skills requirements.

Admission to Degree Candidacy

A student is admitted to degree candidacy by the Dean after recommendation by the program. The student must have satisfactorily met any foreign language or special skills requirement and is expected to complete the degree requirements during the semester candidacy has been approved.

Thesis Requirement

Students should verify with their program if a thesis is required. If applicable, six of the hours required for the degree are allocated to thesis research. Thesis research courses are graded S (Satisfactory) or U (Unsatisfactory). If a U is assigned, the course must be repeated, and an S earned before the degree can be awarded. A student who receives a grade of U in research in two semesters may be dismissed from the Graduate School upon recommendation of the program.

Degree Completion

Each Master's degree requires a minimum of 30 semester credit hours. The minimum GPA required for graduation is 3.0 for awarded degrees. The total allowable time for completion of Master's degrees must not exceed six years.

Requirements for the Doctor of Philosophy Degrees

Programs of study leading to the Doctor of Philosophy degree are offered in Biology, Chemistry, and Physics.

Residence Requirement

In general, a minimum of three years of full-time study, of which at least two must be in full-time residence at the University (or the equivalent in Wake Forest online instruction) is required.

Course Requirements and Advisory Committee

The number of required courses is not prescribed by the Graduate School. Students should consult individual programs for specific requirements. Courses required by programs cannot be taken as Pass/Fail unless they are offered only on that basis. The advisory committee is appointed by the program director and consists of the student's advisor and a minimum of two other members of the graduate faculty.

Foreign Language or Special Skills Requirement

Some programs may require students to demonstrate either a reading knowledge of one or more appropriate foreign languages, or competence in one or more special skills. Students should consult with individual programs for special skills requirements.

Preliminary Examination

The preliminary examination, conducted by the program, is typically administered near the end of the student's second year and must be passed at least twelve months prior to degree completion. The examining committee must include at least three members, one of whom represents a related concentration area. The written examination(s) should cover all areas of concentration and collateral studies. There may also be an oral examination in which any faculty member invited may participate. The committee passes or fails the student and notifies the Graduate School of the results. In case of failure, the committee may recommend that the candidate be dropped from the program. A reexamination may be allowed after six months from the date of the first examination. A student may be reexamined only once. PhD candidates must have a GPA of 3.0 at the time of the preliminary examination.

Admission to Degree Candidacy

A student is admitted to degree candidacy by the Dean after recommendation by the program. The student must have satisfactorily met any foreign language or special skills requirement and is expected to complete the degree requirements during the semester candidacy has been approved.

Dissertation Requirement

Under the supervision of an advisor committee, the candidate prepares a dissertation embodying the results of investigative efforts in the field of concentration. Dissertation research courses are graded S (Satisfactory) or U (Unsatisfactory). If a U is assigned, the course must be repeated, and an S earned before the degree can be awarded. A student who receives a grade of U in research in two semesters may be dismissed from the Graduate School upon recommendation of the program.

Degree Completion

The minimum GPA required for graduation is 3.0 for awarded degrees. The total allowable time for completion of Doctor of Philosophy degrees must not exceed seven years.

Requirements for Certificates

Course Requirements

Required coursework must be taken for a grade and cannot be taken as Pass/Fail unless they are offered only on that basis. GRD courses cannot be used toward certificate requirements. Students should consult with individual programs for specific course requirements.

Foreign Language or Special Skills Requirement

Some programs may require students to demonstrate either a reading knowledge of one or more appropriate foreign languages, or competence in one or more special skills. Students should consult with individual programs for special skills requirements.

Admission to Certificate Candidacy

A student is admitted to certificate candidacy by the Dean after recommendation by the program. The student must have satisfactorily met any foreign language or special skills requirement and is expected to complete the certificate requirements during the semester candidacy has been approved.

Certificate Completion

The minimum GPA required for graduation is 3.0 for awarded certificates.

Programs in the Graduate School of Arts and Sciences

Degree Programs

- Bioethics (BIE)
  - Bioethics, MA
- Biology (BIO)
  - Biology, MS
  - Biology, PhD
- Chemistry (CHM)

- Chemistry, MS
- Chemistry, PhD
- Communication (COM)
  - Communication, MA
- Computer Science (CSC)
  - Computer Science, MS
- Counseling (CNS)
  - Counseling, MA
- Documentary Film Program (DOC)
  - Documentary Film, MA
  - Documentary Film, MFA
- Education (EDU)
  - Education, MAED
- English (ENG)
  - English, MA
- Health and Exercise Science (HES)
  - Health and Exercise Science, MS
- Liberal Arts Studies (LBS)
  - Liberal Arts Studies, MA
- Mathematics (MTH)
  - Mathematics, MS
- Physics (PHY)
  - Physics, MS
  - Physics, PhD
- Psychology (PSY)
  - Psychology, MS
- Quantum Information Sciences (QIS)
  - Quantum Information Sciences, MS
- Statistics (STA)
  - Statistics, MS
- Sustainability (SUS)
  - Sustainability, MA

Dual Degrees

- Bioethics, BA/BS & MA Five Year Program
- Bioethics, JD/MA
- Bioethics, MD/MA
- Bioethics, MDiv/MA
- Computer Science, BS & MS Five Year Program
- Content Creation & Strategic Storytelling, BA/BS & MA Five Year Program
- Counseling, MDiv/MA
- Education, MDiv/MAED
- MD/PhD
- PhD/MBA
- Sustainability, JD/MA
- Sustainability, MDiv/MA

Certificates

- Addiction Counseling, Certificate
- Bioethics, Certificate
- Curriculum, Instruction, and Assessment, Certificate
- Data Science, Certificate
- Medieval and Early Modern Studies, Certificate
- Quantum Information Sciences, Certificate
- Structural and Computational Biophysics (SCB), Certificate
- Sustainability, Certificate

Contact information for all programs and certificates of study may be found on our website at Reynolda Campus Academic Programs and Contacts (https://graduate.wfu.edu/reynolda-campus-academic-programs-and-contacts/).

Degree Programs in the Graduate Schools of Arts and Sciences

- Bioethics (BIE)
  - Bioethics, MA
- Biology (BIO)
  - Biology, MS
  - Biology, PhD
- Chemistry (CHM)
  - Chemistry, MS
  - Chemistry, PhD
- Communication (COM)
  - Communication, MA
- Computer Science (CSC)
  - Computer Science, MS
- Counseling (CNS)
  - Counseling, MA
- Documentary Film Program (DOC)
  - Documentary Film, MA
  - Documentary Film, MFA
- Education (EDU)
  - Education, MAED
- English (ENG)
  - English, MA
- Health and Exercise Science (HES)
  - Health and Exercise Science, MS
- Liberal Arts Studies (LBS)
  - Liberal Arts Studies, MA
- Mathematics (MTH)
  - Mathematics, MS
- Physics (PHY)
  - Physics, MS
  - Physics, PhD
- Psychology (PSY)
  - Psychology, MS
- Quantum Information Sciences (QIS)
  - Quantum Information Sciences, MS
- Statistics (STA)
  - Statistics, MS
- Sustainability (SUS)
  - Sustainability, MA

Bioethics (BIE)

Master of Arts

Overview

Bioethics provides an educational opportunity at the graduate level for current and future professionals and others throughout the country interested in bioethics, including healthcare providers, researchers in biomedicine and the life sciences, lawyers, and professionals in religion, health and research administration, and the biotechnology industry. The goal of the MA in Bioethics is to equip graduates to practice and teach about bioethics as integral to the work of medicine and biotechnology, healthcare, and the basic sciences, and to undertake exemplary bioethics-related research and scholarship. The program encompasses clinical ethics, research ethics, and health policy and administration.

The program has two characteristic emphases: ***bioethics in social context***, and ***bioethics and biotechnology***. First, a general emphasis on the social, cultural, and policy contexts that shape all bioethics questions and issues is visible throughout the curriculum. Although the importance of incorporating the humanities, the social sciences, and even the arts may seem obvious, this is not a component of most bioethics education elsewhere. Second, a focus on bioethics and biotechnology takes advantage of Wake Forest University's strong and growing presence in this area. Research and clinical practice in nanomedicine, genomics, pharmacogenetics, molecular and cell therapies, and the like is ongoing not only here at Wake Forest University but elsewhere in North Carolina.

The program has emphases without declaring particular specializations. This is in part because bioethics education is by its nature fundamentally generalist. Students receive broad exposure to ideas, discussion, scholarly literature, and experience, as well as a set of intellectual skills to be developed and practiced widely before being turned into special areas of interest.

Students are required to follow the student handbook of the school(s) through which they are enrolled. To continue in a dual or five year program, a student must remain in good academic standing with the respective School (Wake Forest College, Divinity, Law or Medicine) and the Graduate School of Arts and Sciences.

The degree requires 30 credit hours; 24-26 hours of coursework with an average grade of B or above plus either 4 hours of capstone project (BIE 795) OR 6 hours of thesis research (BIE 791/792). All MA students must take BIE 703 (3 hours) and BIE 706/BIE 707 (3 hours). Additionally, all MA students must take two of the three following courses: BIE 702 (3 hours), BIE 704 (3 hours), and BIE 705 (3 hours). The remaining 12-14 hours may be in either 600 or 700 level Bioethics courses. With program permission, up to 6 of those hours may be from non-Bioethics graduate level courses. All work must be completed within six years of the date of initial enrollment in the graduate program.

For additional degree requirements, see Requirements for Degrees.

Programs

- Bioethics, MA
- Bioethics, BA/BS & MA Five Year Program
- Bioethics, JD/MA
- Bioethics, MD/MA
- Bioethics, MDiv/MA
- Bioethics, Certificate

Courses

BIE 619. Concepts of Health and Disease. (2-3 h)
Concepts of health and disease and shape discussions in bioethics and health policy. This course examines and critically evaluates competing conceptions of health and disease. The implications of adopting different understandings of health and disease for bioethics and health policy will be explored. Permission of Instructor required (POI)

BIE 690. Special Topics. (1-3 h)
Study of bioethics topics not covered in the regular curriculum. Topics may be drawn from any theory or content area in the field of bioethics. May be repeated for a maximum of 6 hours. Permission of instructor required (POI).

BIE 701. Historical Foundations of Bioethics. (2-3 h)
This elective explores the origins of bioethics thought, through examination of core concepts in philosophy, moral theory, social and cultural studies and law and policy. Topics may include, for instance the ancient Greeks, Confucius, and key religious teaching on health, the civil rights movement; the history of scientific medicine; and the legal conceptualization of medical practice. This course expands and extends students' knowledge of the contemporary history of bioethics as incorporated into various aspects of their required courses. Permission of instructor required (POI)

BIE 702. Biomedical Research Ethics. (3 h)
A historical and conceptual survey of ethical, regulatory, and policy issues in biomedical research. Emphasis will be place on research involving human subjects. Master of Arts students are required to take any 2 of the following 3 courses: BIE 702, 704, or 705. Permission of instructor required (POI)

BIE 703. Bioethics Theory. (3 h)
An investigation of the main theoretical approaches to contemporary bioethics and their philosophical foundations. Each approach will be examined critically and students will explore how each approach informs analysis of contemporary issues in bioethics. Permission of Instructor required (POI)

BIE 704. Public Policy Medicine Justice. (3 h)
An examination of the organization of medicine and biomedical science in the United States today. The relationships between scientific and medical institutions and the implementation of public policies will be critically analyzed in light of the requirements of the principle of justice. Topics include conflicts of interest, broadly understood, within and between institutional and professional actors; the regulation of medical practice; access to health care; and the balance between the public good and market forces. Master of Arts students are required to successfully complete any 2 of the following 3 courses: BIE 702, 704, or 705. Permission of Instructor required (POI)

BIE 705. Clinical Ethics. (3 h)
This course will focus on 'ethics at the bedside' and will make extensive use of case studies. The course begins with sessions on the role of ethics in health care, the theoretical tools of bioethics, and the relationships among law, culture, and clinical ethics. The course reviews the moral foundations of therapeutic relationships, and concludes with examining moral issues encountered in health care at the beginning and at the end of life. Master of Arts students are required to successfully complete any 2 of the following 3 courses: BIE 702, 704, or 705. Permission of Instructor required (POI)

BIE 706. Learning and Doing Bioethics. (3 h)
A seminar on bioethics topics of interest featuring Wake Forest University and invited external faculty, with additional student presentations. Participants engage with presenters and scholarly literature on a variety of aspects of bioethics, including, but not limited to, the scholarly and professional practice of bioethics, the role of empirical scholarship in bioethics and related disciplines, the relationship of bioethics to advocacy and policy, and bioethics communication and mediation. Permission of Instructor required (POI)

BIE 707. Learning and Doing Bioethics. (3 h)
A seminar on bioethics topics of interest featuring Wake Forest University and invited external faculty, with additional student presentations. Participants engage with presenters and scholarly literature on a variety of aspects of bioethics, including, but not limited to, the scholarly and professional practice of bioethics, the role of empirical scholarship in bioethics and related disciplines, the relationship of bioethics to advocacy and policy, and bioethics communication and mediation. Permission of Instructor required (POI)

BIE 708. Research Methods. (2 h)
An introduction to the methods, concepts and tools used in quantitative and qualitative empirical research in bioethics. Students will develop skills in the design, conduct, interpretation, and evaluation of bioethics research. Permission of Instructor required (POI)

BIE 711. Current Topics in Clinical and Biomedical Research Ethics. (2-3 h)
An in-depth critical examination of selected topics of current interest in clinical and research ethics. Topics are identified by staff and students. Examples of pertinent topics include human pluripotent stem cell research; assisted-reproduction; research without consent; the sale of human organs; pandemic and biodefense preparedness; synthetic body parts and transhumanism; genetic enhancement; regenerative medicine and biogerontology. May be repeated for credit up to a maximum of 6 hours. Permission of Instructor required (POI)

BIE 713. Medical Liability and Treatment Relationships. (2-3 h)
An examination of the relationships between law and medicine, including the legal regulation of medical practice, concepts of medical malpractice, informed consent, confidentiality and privacy, and institutional liability. The ethical implications of the intersection of law and medicine will be critically analyzed. This course is cross listed as LAW 524. Permission of instructor required (POI)

BIE 715. Bioethics and Religion. (2-3 h)
This course explores fundamental themes, methods, and issues in religious bioethics. It seeks to determine the ways that religious approaches offer distinctive, complementary or overlapping perspectives with secular approaches. Specific topics will include assisted reproductive technologies, family planning and abortion, genetic therapy and enhancement, withholding life-sustaining treatment, suicide and euthanasia and justice issues in the allocation of health care resources. The course will combine lectures and discussions with analysis of cases. Permission of Instructor required (POI)

BIE 721. Research Independent Study. (1-3 h)
Students may work with a faculty member on a project of mutual interest. May be repeated for credit up to a maximum of 6 hours. Permission of Instructor required (POI)

BIE 722. Research Independent Study. (1-3 h)
Students may work with a faculty member on a project of mutual interest. May be repeated for credit up to a maximum of 6 hours. Permission of Instructor required (POI)

BIE 725. Health Care Law and Policy. (2-3 h)
This course examines the public policy and legal dimensions of the financing and regulation of health care delivery. Its focus is on how medical institutions (hospitals, insurers, HMOs) are structured and regulated, and how these institutions relate to their physicians and patients. Ongoing debate over health care reform is a main focus. The dominant theme is how law shapes and responds to the rapid economic and structural changes that are taking place in the health care sector. This course is cross-listed as LAW 525. Permission of Instructor required (POI)

BIE 731. Bioethics at Work: The IRB. (1-3 h)
Provides students with the opportunity to experience and understand human research oversight by attending Institutional Review Board (IRB) meetings, reviewing submitted protocols, and considering the ethical issues arising therein. Students assigned to a single IRB for a single semester will receive 1 credit. They will attend monthly meetings, meet periodically with course faculty and staff, and meet with IRB senior staff at the beginning and end of the semester. Students are also required to maintain and submit a journal of commentary on meetings and protocols and the ethical issues arising therein and an end of semester paper. Initial enrollment must be concurrent with enrollment in BIE 702: Biomedical Research Ethics. Additional credits may be earned by students who attend the meetings of more than one IRB or who continue attendance during the summer terms and/or in the fall semester. Course may be repeated up to a maximum of 3 hours. Co-requisite - BIE 702. Permission of Instructor required (POI)

BIE 733. Bioethics at Work: The Clinical Context. (1-3 h)
This course is designed to introduce students to central clinical ethics activities in health care facilities, including ethics consultation, ethics policy development and review, and continuing education in bioethics. In addition to weekly seminar classes, students will attend meetings of the Wake Forest Baptist Medical Center Clinical Ethics Committee and its standing subcommittees and continuing education conferences in bioethics. Students will meet with a variety of health care professionals to learn about their contributions to clinical ethics, will observe the process of clinical ethics consultation at WFBMC, and will study and practice ethics consultation skills. P-BIE 705. Permission of Instructor required (POI)

BIE 737. Genetics and Bioethics. (3 h)
An exploration of some of the ethical issues generated by the acquisition and application of knowledge about the human genome. Topics include eugenics, confidentiality, gene therapy, genetic testing of minors, genetic testing of adults, and ownership of genetic information. Permission of Instructor required (POI)

BIE 739. Neuroethics. (3 h)
This course explores some of the major philosophical and ethical issues that arise with the advancement in neuroscience research and neurology case. The course is divided into two areas of neuroethics: (1) the ethics of neuroscience and (2) the neuroscience of ethics. The ethics of neuroscience investigates the ethical implications of the application of neurotechnology for individuals and society, and the neuroscience of ethics attempts to answer traditional ethical questions through neuroscience. In the first half of the course, we will examine some ethical issues (e.g. mind reading, memory manipulation, BCI, AI, and cognitive enhancement) that arise in the applied and clinical contexts of neurotechnology and neurological disease. In the second half, we will consider the ethical, legal, and philosophical implications (e,g. free will, consciousness, personal identity, and criminal law) of neuroscientific discoveries and claims. This course is cross-listed in the Divinity School (THS 739). Permission of instructor required (POI)

BIE 741. Narrative and Bioethics. (3 h)
This team-taught course provides bioethics students with an overview of the different ways in which narratives of diverse types are instrumental to bioethics thinking. Four to six faculty will teach individual course units of 2-3 sessions, addressing topics including but not limited to: illness narratives; bioethics in fiction and film; performable case studies addressing bioethics issues; the voice of the medical case presentation; narrative reading and narrative writing; bioethics in the news; and the ethics of "thick description." Involvement of multiple faculty enables critical reflection on narrative from a variety of disciplinary perspectives common to bioethics. Permission of Instructor required (POI)

BIE 757. Biotechnology Law & Policy. (2-3 h)
This course surveys a range of legal and public policy topics in biotechnology, such as: FDA regulation of drugs and devices, regulation of medical research, products liability, insurance coverage of pharmaceuticals, intellectual property, and genetics. This course is cross-listed with the School of Law (LAW 657). Permission of Instructor required (POI)

BIE 790. Biotechnology and Ethics. (3 h)
With the convergence of medicine, nanotechnology, computer science, molecular biology, genetic engineering, and business, biotechnologies are emerging not only as an important provider of life-saving and life-enhancing treatments but also a fast-growing and very profitable industry. This course explores some of the major ethical issues related to the current and proposed uses of biotechnologies with particular attention to the reasons and arguments that are often used to support various views on the use of biotechnology. This course is cross listed in the Divinity School. Permission of Instructor required (POI)

BIE 791. Thesis Research. (1-6 h)
Research directed toward fufilling the thesis requirement. May be repeated for up to a total of 6 credits. P-POI.

BIE 792. Thesis Research. (1-6 h)
Research directed toward fufilling the thesis requirement. May be repeated for up to a total of 6 credits. P-POI.

BIE 795. Capstone Project. (1-4 h)
Work towards completing a capstone project. P- at least nine BIE credits or at least six credits of core courses (BIE 702, 703, 704, 705, 706/707), unless otherwise approved. Permission on Instructor required (POI)

Bioethics, MA

Degree Requirements

The degree requires 30 credit hours; 24-26 hours of coursework with an average grade of B or above plus either 4 hours of capstone project (BIE 795) OR 6 hours of thesis research (BIE 791/792).

All MA students must take BIE 703 (3 hours) and BIE 706/BIE 707 (3 hours). Additionally, all MA students must take two of the three following courses: BIE 702 (3 hours), BIE 704 (3hours), BIE 705(3 hours). The remaining 12-14 hours may be in either 600 or 700 level Bioethics courses. With program permission, up to 6 of those hours may be from non-Bioethics graduate level courses.

For additional degree requirements, see Requirements for Degrees.

Biology (BIO)

Master of Science, Doctor of Philosophy

Overview

The Department of Biology offers programs of study leading to the MS and PhD degrees. For admission to graduate work, the department requires an undergraduate major in the biological sciences or the equivalent, plus at least four semesters of courses in the physical sciences. Any deficiencies in these areas must be removed prior to admission to candidacy for a graduate degree.

Research opportunities include behavioral ecology, biochemistry and molecular biology, biological oceanography, biomechanics, cell biology, ecology, epigenetics, evolution, genomics, microbiology, neurobiology, physiology, population genetics, sensory biology, and systematics. For specific faculty interests and descriptions of field sites and research resources, please visit the departmental website http://biology.wfu.edu.

At the master's level, the department emphasizes broad training rather than narrow specialization, and combines coursework with thesis research. At the doctoral level, few specific requirements are prescribed. Individual programs are designed for each student at both levels under the guidance of the student's faculty advisor, advisory committee and departmental graduate committee. Enrollment in the graduate program is open only to students whose interests are reflected by the areas of expertise represented by the faculty. Prospective applicants are encouraged to correspond with faculty members whose areas of research interest are compatible with their own. Additional information is available from the Biology Program Director.

Study leading to the MS degree was inaugurated in 1961. The PhD degree program began in September 1970. A departmental graduate committee consisting of Biology department faculty and an appointed graduate student representative oversees all aspects of the graduate program from application review to acceptance to matriculation.

Programs

- Biology, MS
- Biology, PhD
- MD/PhD
- PhD/MBA
- Structural and Computational Biophysics (SCB), Certificate

Courses

BIO 601. Topics in Biology. (1-4 h)

BIO 602. Topics in Biology. (1-4 h)
Seminar and/or lecture courses in selected topics, some involving laboratory instruction. May be repeated for credit.

BIO 603. Topics in Biology. (1-4 h)
Seminar and/or lecture courses in selected topics, some involving laboratory instruction. May be repeated for credit.

BIO 604. Topics in Biology. (1-4 h)
Seminar and/or lecture courses in selected topics, some involving laboratory instruction. May be repeated for credit.

BIO 605. Topics in Biology. (1-4 h)
Seminar and/or lecture courses in selected topics, some involving laboratory instruction. May be repeated for credit.

BIO 607. Biophysics. (3 h)
Introduction to the structure, dynamic behavior, and function of DNA and proteins, and a survey of membrane biophysics. The physical principles of structure determination by X-ray, NMR, and optical methods are emphasized.

BIO 608. Biomechanics. (3 h)
Analyzes the relationship between organismal form and function using principles from physics and engineering. Solid and fluid mechanics are employed to study design in living systems.

BIO 608L. Biomechanics Lab. (1 h)
Laboratory study of biomechanics. P or C-BIO 608.

BIO 609. Comparative Anatomy. (4 h)
Study of the vertebrate body from an evolutionary, functional, and development perspective. Labs emphasize structure and function, primarily through the dissection of representative vertebrates.

BIO 610. Community Ecology and Global Change. (4 h)
An advanced ecology course covering mechanisms that determine the dynamics and distribution of plant and animal assemblages and their responses to and roles in global change. Lectures focus on ecological principles and theory. Lab includes local field trips and discussion of the primary literature. Weekend field trips to Outer Banks and mountains.

BIO 611. Ecology and Conservation Biology of Coral Reefs. (4 h)
In-depth study of the various biotic and abiotic components that come together to structure ecosystem function and biodiversity at all spatial scales in one of Earth's most productive and diverse environments, yet one most threatened by human use and climate change. Lab component is a one-week field trip over Spring Break.

BIO 613. Herpetology. (4 h)
Lecture course on the biology of reptiles and amphibians, emphasizing the unique morphological, physiological, and behavorial adaptations of both groups, and their evolutionary histories and relationships. Two local field trips are planned.

BIO 614. Evolution. (3 h)
Study of the evolutionary analysis of biological change in populations, lineages, and the history of Earth. Explores reconstruction of evolutionary histories, adaptation, complexity, and biodiversity through primary literature.

BIO 614L. Evolution Lab. (1 h)
Introduces evolutionary analytic methods and interpretation of trait and molecular data through practical tutorials. P or C-BIO 614.

BIO 615. Population Genetics. (3 h)
Study of the amount and distribution of genetic variation in populations of organisms, and of how processes such as mutation, recombination, and selection affect genetic variation. Lectures present both an introduction to theoretical studies and discussion of molecular and phenotypic variation in natural populations.

BIO 615L. Population Genetics Lab. (1 h)
Uses computer modeling and simulation, and experiments using populations of fruit flies and other model organisms as appropriate. P or C-BIO 615.

BIO 616. Biology of Birds. (4 h)
Lecture plus lab course emphasizing ecological and evolutionary influences on the physiology, behavior, diversity, and population biology of birds, and case studies in conservation biology.

BIO 617. Plant Physiology and Development. (3 h)
Examines the growth, development, and physiological processes of plants. The control of these processes is examined on genetic, biochemical, and whole plant levels.

BIO 617L. Plant Physiology and Development Lab. (1 h)
Consists of structured experiments and an independently designed research project. P or C-BIO 617.

BIO 619. Biology of Soils. (3 h)
A survey of soil structure and biodiversity, with a detailed study of ecological interactions within soil communities and the impact of the soil biota on soil formation, nutrient cycling, and bioremediation within pristine, managed, and damaged soils.

BIO 619L. Biology of Soils Lab. (1 h)
Laboratory study of physical, chemical, and biological methods for analyzing the soil habitat. P or C-BIO 619.

BIO 623. Animal Behavior. (3 h)
Survey of laboratory and field research on animal behavior.

BIO 623L. Animal Behavior Lab. (1 h)
Laboratory study of animal behavior. P or C-BIO 623L.

BIO 624. Hormones and Behavior. (3 h)
Exploration of the mechanisms of hormonal influences on behavior.

BIO 627. Mycology: Biology of Fungi. (4 h)
Introduces fungi, their evolution and natural taxonomy; cell and molecular biology; genetics, mating and development; primary and secondary biochemistry; and their interactions with other organisms and the environment. Lab introduces culturing, microscopic and molecular techniques.

BIO 630. Land and Natural-Resources Management. (3 h)
Provides a fundamental understanding of land and resource management. The major focus is on federal oversight and policies but state, local, non-profit, and international aspects are included.

BIO 632. Microbiology. (4 h)
Structure, function, and taxonomy of microorganisms with emphasis on bacteria. Topics include microbial ecology, industrial microbiology, and medical microbiology. Lab emphasizes microbial diversity through characterizations of isolates from nature.

BIO 634. Parasitology. (4 h)
Survey of protozoan, helminth, and arthropod parasites with a focus on cellular biology, life cycles, host-parasite relationships, and public health implications. Laboratory emphasizes microscropy-based techniques for examining parasite morphology and intracellular structures.

BIO 636. Development. (3 h)
A study of the molecular, cellular, and anatomical aspects of embryonic development of invertebrate and vertebrate organisms.

BIO 636L. Development Lab. (1 h)
Laboratory study of the molecular, cellular, and anatomical aspects of embryonic development of invertebrate and vertebrate animals. P or C-BIO 636.

BIO 639. Animal Cognition. (3 h)
A survey of learning, reasoning and social cognition in animals, with an emphasis on species other than widely-used models such as rodents or primates. Classes are initially mostly lecture, and then mostly discussion of empirical studies from the primary literature.

BIO 640. Ecology. (4 h)
Interrelationships among living systems and their environments, structure and dynamics of major ecosystem types, contemporary problems in ecology.

BIO 641. Marine Biology. (3 h)
Introduction to the physical, chemical, and biological parameters affecting the distribution of marine organisms.

BIO 641L. Marine Biology Lab. (1 h)
Marine biology lab. P or C-BIO 641.

BIO 642. Oceanography. (4 h)
Introduces the geological, physical, chemical, and biological processes that govern the global oceans and their role in climate change. Lab focus is on tools and research questions pertinent to the field of biological oceanography.

BIO 646. Neurobiology. (3 h)
Introduces the structure and function of the nervous system including the neural basis of behavior.

BIO 646L. Neurobiology Lab. (1 h)
Laboratory emphasizing electrophysiological techniques with experiments from the cellular to the behavioral level. Students will design and complete their own projects. P or C-BIO 646.

BIO 648. Physiological Plant Ecology. (3 h)
Provides a fundamental understanding of how plants have adapted to the stresses of their habits, particularly in harsh or extreme environments such as deserts, the alpine, the arctic tundra, and tropical rain forests.

BIO 648L. Physiological Plant Ecology Lab. (1 h)
Physiological plant ecology lab. P or C-BIO 648.

BIO 649. Tropical Biodiversity of the Amazon and Andes. (4 h)
Intensive field course in tropical biodiversity focusing on ecosystems, natural resource management, and conversation. Students will travel to major tropical biomes in the vast tropical wildernesses of Andean and Amazonian Peru. Lectures emphasize the basic ecological principles important in each ecosystem. Field-based labs focus on student-designed projects. Offered in the summer only. POI required.

BIO 652. Developmental Neuroscience. (4 h)
Examines the development of neural structures and the plasticity of the mature nervous system. Laboratory covers the basics of embryology, immunocytochemistry, and primary neuron culture.

BIO 653. Functional Neuroanatomy. (3 h)
An introduction to the gross and cellular anatomical organization of the vertebrate central nervous system. Attention is given to relating structure to function, the anatomical basis of neuropathologies, and modern approaches in neuroanatomy and imaging.

BIO 656. Ecology and Resource Management of Southeast Australia. (4 h)
Intensive field-oriented course focusing on ecosystems, natural resource management and enviromental conservation of southeastern Australia. Students travel to major biomes including sub-tropical rainforests, coral reefs, and the Australian urban environment. Labs are field-based with some consisting of study-designed field projects. Taught only in summers in Australia.

BIO 660. Metabolic Diseases. (3 h)
Explores genetic and biochemical pathways in the context of inborn errors of metabolism.

BIO 662. Immunology. (3 h)
Study of the components and protective mechanisms of the human immune system, including innate and acquired immunity.

BIO 663. Sensory Biology. (3 h)
Lecture course that examines a variety of sensory systems. Emphasis is on sensory physiology, although other aspects of sensory systems, e.g. molecular biology and anatomy, are also covered.

BIO 663L. Sensory Biology Lab. (1 h)
Laboratory emphasizing electrophysiological and behavioral techniques to examine sensory systems. Students will design and complete their own projects. P or C-BIO 663.

BIO 665. Biology of the Cell. (3 h)
Lecture and lab course on recent advances in cell biology. Lectures emphasize analysis and interpretation of experimental data in the primary literature, focusing on topics such as the large scale architecture of the cell, targeting of macromolecules, cell-cell communication, cell signaling, and the control of cell division. The labs introduce basic techniques in cell biology and leads to an independent project.

BIO 665L. Biology of the Cell Lab. (1 h)
Laboratory course introducing basic techniques in cell biology, leading to an independent project. P or C-BIO 665.

BIO 667. Virology. (3 h)
Designed to introduce students to viruses, viral/host interactions, pathogenicity, methods of control and their use in molecular biology, including gene therapy.

BIO 669. Cancer Biology. (3 h)
Analysis of molecular and cellular mechanisms that transform normal cells, trigger abnormal proliferation, and lead to tumor formation. Emphasis is on the biological basis of cancer, with some exploration of clinical and social consequences.

BIO 670. Biochemistry: Macromolecules and Metabolism. (3 h)

BIO 670L. Biochemistry Lab. (1 h)
Overview of biochemical approaches to study structure and function of macromolecules. Cannot receive credit for both BiO 670L and 671L. P or C-BIO 670.

BIO 671L. Advanced Biochemistry Lab. (1 h)
Emphasizes approaches for insolation and analysis of enzymes. Cannot receive credit for both BIO 670L and 671L. P or C-BIO 671.

BIO 672. Advanced Molecular Biology. (3 h)
Presents molecular mechanisms by which stored genetic information is expressed including the mechanisms for and regulation of gene expression, protein synthesis, and genome editing. Emphasizes analysis and interpretation of experimental data from the primary literature.

BIO 672L. Advanced Molecular Biology Lab. (1 h)
Introduces modern methods of molecular biology to analyze and manipulate expression of genes and function of gene products. P or C-BIO 672.

BIO 674. Neuropharmacology. (3 h)
An introduction to how pharmacological agents affect cellular and molecular functions in the nervous system of normal and disease states. Lecture and case studies will be used to examine topics including drugs targeting mood and emotion, memory and dementia, and movement disorders. Drugs of abuse and the neurological basis of addiction will also be evaluated.

BIO 679. Introduction to Geographic Information Systems (GIS). (4 h)
Lecture and laboratory course that introduces the concepts and uses of GIS as a mapping and analytical tool. Lectures cover the history of GIS, GIS data structures and sources of data, map projections, GIS tools, applications, and resources. Exercises include example of GIS applications in environmental modeling, socio-demographic change and site suitability analyses.

BIO 680. Biostatistics. (3 h)
Introduction to inferential methods in biology. Focuses on recognizing, quantifying, and communicating uncertainty in biological data. Topics include summarizing data, making predictions, and testing hypotheses. Special emphasis on communicating statistics to scientific and general audiences.

BIO 681. Epigenetics. (3 h)
Studies the molecular mechanisms for inheritance of genome modifications. Uses primary literature to explore the environmental and developmental signals that influence epigenetic controls of gene expression and disease.

BIO 681L. Epigenetics Lab. (1 h)
Provides hands-on experiences with genome editing and molecular genetics to address the function and expression of genes. P or C-BIO 681.

BIO 682. Molecular Signaling. (3 h)
Examines the molecular and biochemical mechanisms by which hormones, neurotransmitters, and other signaling molecules act to change growth, development, and physiological and behavioral responses of organisms with a focus on discussion of primary literature.

BIO 683. Genomics. (3 h)
Examines the architecture, expression, and evolution of genomes. Uses current primary literature to examine the functional and evolutionary dynamics of genomes and the modern analytic techniques used to investigate genome-wide phenomena.

BIO 683L. Genomics Lab. (1 h)
Introduces analytic methods and interpretation of genome wide data through practical tutorials. P or C-BIO 683.

BIO 685. Bioinformatics. (3 h)
Introduction to bioinformatics and computing techniques essential to current biomedical research. Primary focus is gene and protein sequence and protein structure databases, and algorithms for sequence and structure analysis. Emphasizes interdisciplinary interaction and communication. Also listed as CSC 685 and PHY 685.

BIO 686. Genetics and African Diaspora. (3 h)
Study of modern human population divergence from a genomic perspective, focusing on the role of parasites in driving evolutionary adaptations. Explores the intersection of genetic diversity, health and disease in humans of the African diaspora.

BIO 687. Computational Systems Biology. (3 h)
Introduction of concepts and development of skills for comprehension of systems biology problems, including both biological and computational aspects. Topics may include genome-wide transcriptomic analysis, protein interaction networks, large-scale proteomics experiments, and computational approaches for modeling, storing, and analyzing the resulting data sets. Emphasizes interdisciplinary interaction and communication.

BIO 688. Methods in Molecular Genetics. (4 h)
Hybrid lecture/laboratory course gives students a hands-on introduction to a diverse array of techniques commonly used in molecular genetics laboratories.

BIO 701. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 702. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 703. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 704. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 705. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 706. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 707. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 708. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester. Staff.

BIO 711. Directed Study in Biology. (1 h)
Reading and/or laboratory problems carried out under and by permission of a faculty member.

BIO 712. Directed Study in Biology. (1 h)
Reading and/or laboratory problems carried out under and by permission of a faculty member.

BIO 715. Foundations of Physiology. (1-4 h)
Covers classical and current topics and techniques in comparative physiology. Format varies from seminar to a full laboratory course.

BIO 716. Signal Transduction. (2 h)
Focuses on the mechanisms of inter- and intra-cellular communications. Topics range from receptors to signaling molecules to physiological responses. Largely based on the primary literature and requires student presentation of primary research articles.

BIO 717. Developmental Mechanism. (2 h)
Seminar course examining the molecular, biochemical, and cellular mechanisms of animal and/or plant development. Relevant topics selected from the current literature are discussed in lecture and presentation formats.

BIO 718. Gene Expression. (2 h)
Seminar covers gene expression in eukaryotic and prokaryotic eystems. Topics range from transcription to translation to other aspects of gene regulation. Emphasis is on the experimental basis of understanding the mechanisms of gene expression. Students present, in seminar format, appropriate papers from literature. All students participate in discussion and evaluation of presentations.

BIO 720. Integrative Biology I. (3 h)
Inquiry into the fundamentals of scientific thought and practice in the biological sciences. Course will emphasize key biological theories and contemporary techniques in the context of current literature. Each semester will be based on three thematic areas chosen by a committee of faculty and students to encompass a breadth of areas of biological knowledge and integrate biological subdisciplines.

BIO 721. Integrative Biology II. (3 h)
Inquiry into the fundamentals of scientific thought and practice in the biological sciences. Course will emphasize key biological theories and contemporary techniques in the context of current literature. Each semester will be based on three thematic areas chosen by a committee of faculty and students to encompass a breadth of areas of biological knowledge and integrate biological subdisciplines.

BIO 725. Plant Genetics. (1-2 h)
Covers various aspects of plant genetics in a seminar format. Topics range from classical Mendelian genetics to genomics and bioinformatics, depending on the interests of the students. Students present the results, conclusions, and significance of appropriate papers from the literature. All students participate in discussion and evaluation of presentation.

BIO 726. Plant Physiology. (1-2 h)
Covers various aspects of plant physiology and hormones in a seminar format. Topics range from auxin transport to properties of light within the leaf. Students present the results, conclusions, and significance of appropriate papers from the literature. All students participate in discussion and evaluation of presentations.

BIO 727. Plant Evolution. (1-2 h)
Covers various aspects of plant evolution in a seminar format. Topics range from problems in phylogeny reconstruction and patterns of diversity to major evolutionary innovations in various plant groups. Students present the results, conclusions, and significance of appropriate papers from the literature. All students participate in discussion and evaluation of presentations.

BIO 728. Plant Ecology. (1-2 h)
Covers various aspects of plant ecology in a seminar format. Topics vary depending on graduate student interest. Students present the results, conclusions, and significance of appropriate papers from the literature. All students participate in discussion and evaluation of presentations.

BIO 735. Foundations of Evolutionary Genetics. (2 h)
Inquiry into the fundamental concepts in genetic evolution through discussion of foundational primary literature. Topics explored include population genetic processes, speciation and extinction.

BIO 740. Physiological Ecolgy. (4 h)
Introduction to evolutionary/ecological physiology, with emphasis on the interactions between organisms and major abiotic factors of the environment including water balance-hydration, gaseous exchange-respiration, temperature tolerance-thermal physiology.

BIO 757. Techniques in Mathematical Biology. (3 h)
Offers students a framework for understanding the use of mathematics in both biological theory and empirical research. Emphasis is on practical applications of mathematical techniques, and learning by doing. A central goal is to give students tools to use in their own research. Topics covered include continuous and discrete population models, matrix models, stochastic models, life-history theory, and fitting models for data. Mathematical skills are taught and refreshed, but knowledge of basic calculus is required.

BIO 767. Foundations of Ecology. (3 h)
A graduate seminar focusing on understanding the seminal developments in the field of ecology and then tracing their intellectual impacts on the modern literature.

BIO 775. Microscopy for the Biological Sciences. (4 h)
An introduction to the various types of light, confocal, and electron microscopy. Students will learn technical and theoretical aspects of microscopy, methods of sample preparation, digital image acquisition and analysis and the preparation of publicaion quality images. The course will emphasize practical applications of microscopy, microscopy experimental design, and hands-on use of microscopes and digital imaging systems. Students will be expected to design and conduct a microscopy project and present their results to the class. Additionally, students will be expected to participate in class discussions regarding newly emerging microscopy techniques in various biological disciplines.

BIO 778. Advanced Ecology. (4 h)
Covers current research in the field of ecology with a focus at the community level. Experimental design, data analysis, and interpretation are emphasized.

BIO 781. Statistical Models and Data in R. (4 h)
Provides an introduction to statistical modeling and data management in the R computer language. The course objectives are to introduce student to: (i) methodologies for the design and analysis of ecological and organismal experiments, (ii) programming with an emphasis on good coding and data management habits, and (iii) producing figures and reproducible workflows for publication.

BIO 783. Teaching Skills and Instructional Development. (3 h)
Introduction to teaching college-level science courses. Emphasis is on: defining and achieving realistic course goals; mechanics of selecting, developing and refining topics for lecture or laboratory; effective presentation strategies; and creating an active learning environment. Students develop a teaching portfolio containing course syllabi, lecture outlines, and student-ready laboratory materials. Format combines didactic lectures, individual projects, and group discussions and critiques. Course meets for two, 2-hour periods each week.

BIO 785. Teacher-Scholar Professional Development I. (1 h)
Training in professional skills for early-career biological scientists through interactive discussion and exercises. Topics include scientific ethics and professional practices, scientific publishing, and scientific communication.

BIO 786. Teacher-Scholar Professional Development II. (1 h)
Training in professional skills for early-career biological scientists through interactive discussion and exercises. Topics include grant preparation and submission, professional bias and discrimination in the sciences, career paths, and job interviewing.

BIO 789. Research Seminar. (1 h)
Introduction to scientific presentation skills through active participation in scientific seminars and symposiums, discussion, and exercises. May be repeated for credit.

BIO 791. Thesis Research I. (1-9 h)

BIO 792. Thesis Research II. (1-9 h)

BIO 891. Dissertation Research I. (1-9 h)

BIO 892. Dissertation Research II. (1-9 h)

Faculty

Program Director Ke Reid
Chair Erik C. Johnson

Reynolds Professor Susan E. Fahrbach
Andrew Sabin Family Foundation Presidential Chair in Conservation Biology Miles R. Silman
Charles M. Allen Professor of Biology Gloria K. Muday
Professors T. Michael Anderson, Miriam A. Ashley-Ross, Sarah M. Esstman, Susan E. Fahrbach, Kenneth T. Kishida, Clifford W. Zeyl
Associate Professors Regina J. Cordy, Sheri A. Floge, Ke Reid, Brian W. Tague
Assistant Professors Arkadpita Bakshi, Josh Currie, Sheri A. Floge, Nicholas Kortessis, Christopher M. Jernigan, Christopher P. Krieg, Elsie H. Shogren, Sarah Westrick, Aoshu Zhong
Teaching Professors A. Daniel Johnson, Anna Kate Lack
Associate Teaching Professors Diana R. Arnett
Assistant Teaching Professors Andrew St. James, Anna Parker, Michael Rizzo

Biology, MS

Master of Science Degree Requirements

The degree requires 30 credit hours; 24 hours of coursework with an average grade of B or above plus 6 hours of thesis research. At least 12 of the 24 hours must be in courses numbered 700 or above. The remaining 12 hours may be in either 600 or 700 level courses. Three courses are required of all students: BIO 720 (3 hours), BIO 721 (3 hours), and one 3-4 hour Biology course in a practical technique.

For additional degree requirements, see Requirements for Degrees.

Biology, PhD

Doctor of Philosophy Degree Requirements

Students have no minimum required number of course hours beyond the three required courses below. Other courses taken are selected in consultation with the Advisory Committee. The degree requires an average grade of B or above, plus at least 6 hrs of thesis research (BIO 791 or 792) and at least 9 hrs of dissertation research (BIO 891 or 892). Three courses are required of all students: BIO 720 (3 hours), BIO 721 (3 hours), and one 3-4 hour Biology course in a practical technique.

For additional degree requirements, see Requirements for Degrees.

Chemistry (CHM)

Master of Science, Doctor of Philosophy

Overview

The Department of Chemistry offers programs of study leading to the MS and PhD degrees. Opportunities for study in courses and through research are available in analytical, biological, inorganic, organic, and physical chemistry. Research plays a major role in the graduate program. Since the number of graduate students is limited, the research program of the individual student is enhanced by close daily contact with the faculty.

All applicants for graduate work in the department are expected to offer as preparation college level fundamental courses in general, analytical, organic, inorganic, and physical chemistry; physics; and mathematics through one year of calculus. During registration all new graduate students take qualifier examinations covering the fields of analytical, biological, inorganic, organic, and physical chemistry. Programs of study are in part determined by the results of these examinations, and deficiencies are to be remedied during the student's first academic year.

For the MS degree, the student is expected to undertake a broad program of coursework at an advanced level and to complete successfully an original investigation. This investigation must be of the highest quality but necessarily limited in scope. Students who hold assistantships typically spend 2-3 years in residence for the completion of this degree.

For the PhD degree, individual programs are designed for each student under the guidance of the student's faculty advisor and advisory committee and with the approval of the graduate committee.

The University preliminary examination requirement is satisfied by successful completion of a series of written cumulative examinations and by presentation of a research proposals, namely the planned dissertation research project. Each student is to present at least one departmental seminar on the results of his or her dissertation research. The student must present a dissertation and pass an examination on it as prescribed by the Graduate School, and other University requirements must be satisfied.

The chemistry program participates in the Interdisciplinary Graduate Track in Structural and Computational Biophysics. For more information, refer to the pages in this bulletin regarding the program.

The original graduate program, which led to the MS degree, was discontinued in 1949. The present MS program was begun in 1961, the PhD in 1972.

Graduate courses offered by the Department of Chemistry are from the following list. Not all courses are offered every year.

Programs

- Chemistry, MS
- Chemistry, PhD
- MD/PhD
- PhD/MBA
- Structural and Computational Biophysics (SCB), Certificate

Courses

CHM 621. Intermediate Organic Chemistry. (3 h)
Survey of advanced topics in organic chemistry including stereochemistry, conformational analysis, reaction mechanisms, organometallic chemistry and asymmetric synthesis.

CHM 623. Organic Analysis. (4 h)
The systematic identification of organic compounds.

CHM 624. Medicinal Chemistry. (3 h)
This course is an introduction to drug targets, mechanism, design, and synthesis. Topics of study include the review of biomolecular structure and function; druggable/targetable enzymes and signaling networks; the replisome- and transcriptome as targets; molecular and cellular pharmacology, molecular mechansim of action at the target level; drug metabolism and pharmacokinetics/pharmacodynamics. A significant portion of the course will be devoted to drug discovery, which includes design, SAR, optimization, synthetic methodologies, computer-assisted drug design; QSAR; prodrugs and 'bench-to-bedside', approaches.

CHM 625. Organic Synthesis. (4 h)
Reagents for and design of synthetic routes to organic molecules.

CHM 626. Organic Synthesis. (4 h)
Reagents for and design of synthetic routes to organic molecules.

CHM 634. Chemical Analysis. (3-4 h)
Theoretical and practical applications of modern methods of chemical analysis. C-CHM 641.

CHM 641. Physical Chemistry. (3-4 h)
Fundamentals of physical chemistry.

CHM 642. Physical Chemistry. (3-4 h)
Fundamentals of physical chemistry.

CHM 644. Physical Chemistry. (3-4 h)
Fundamentals of physical chemistry.

CHM 648. Electronic Structure Theory and Computational Chemistry. (3 h)
Introduction to quantum mechanical foundation of electronic structure theory and its application to problems in computational chemistry.

CHM 651. Special Topics in Biochemistry. (3 h)
Fundamentals of biochemistry, with particular emphasis on mechanistic analysis of metabolic pathways, enzymatic activity, and drug action.

CHM 656. Chemical Spectroscopy. (1.5 h)
Fundamental aspects of the theory and application of chemical spectroscopy, as found in the areas of analytical, inorganic, organic, and physical chemistry. Emphasis varies. Seven week courses. P-CHM 642 or 644, 661 or POI. May be repeated for credit.

CHM 657. Chemical Spectroscopy. (1.5 h)
Fundamental aspects of the theory and application of chemical spectroscopy, as found in the areas of analytical, inorganic, organic, and physical chemistry. Emphasis varies. Seven week courses. P-CHM 642 or 644, 661 or POI. May be repeated for credit.

CHM 661. Inorganic Chemistry. (3-4 h)
Principles and reactions of inorganic chemistry.

CHM 662. Nanochemistry in Energy and Medicine. (3 h)
New optoelectronic science and technologies, often involving nanotechnologies, photochemistry, and laser are revolutionizing many fields for solar energy conversion has inspired many researchers across different chemical, physical and engineering disciplines. Implementation of new laser-based optical techniques, photochemistry, and nanotechnology concepts have enabled dramatic progress in biomedical science where their potential is still developing rapidly. The goal of this course is to familiarize students with advanced topics in nanomaterials science, nanosynthesis, photochemistry, energy conversion, optoelectronics, and biomedical photonics. In this course nanomaterials structures, nanodevices, and time-resolved (fs-ms) photochemical processes involved in energy conversion and biomedical applications will be discussed. The energy and optoelectronic materials sections cover a broad range of different systems including organic, inorganic molecular materials, polymers, and semiconductors, applied in energy conversion and optoelectronics. The photochemical processes in these optoelectronic systems will be described. This includes light-driven optical, electronic, and chemical processes in a broad range of materials such as organic molecular materials, metal-organic dyes, polymers and semiconductors, that govern the behavior of optoelectronic and photovoltaic devices. Practical applications, device schemes, different generations, and recent progress in the field will be overviewed. The use of ultrafast laser techniques for the photochemical understanding of optoelectronic materials and interfaces will be covered. The application of nanomaterials and laser spectroscopy techniques in biomedical imaging (biomedical photonics) will be discussed. This includes nanodevices such as biosensors, drug delivery/release systems, for biomedical applications. The laser biomedical imaging techniques and optoelectronic approaches for clinically monitoring of early disease states and molecular diagnostics will be discussed.

CHM 664. Materials Chemistry. (3 h)
A survey of inorganic-, organic-, bio-, and nano-materials, including hybrid materials and applications.

CHM 664L. Materials Chemistry Lab. (1 h)
Synthesis of inorganic and organic based materials and their characterization. Lab-four hours.

CHM 666. Chemistry and Physics of Solid State Materials. (3 h)
Design, synthesis, structure, chemical and physical properties, and the application of solid state materials.

CHM 670. Biochemistry: Macromolecules and Metabolism. (3 h)

CHM 673. Biochemistry Protein and Nucleic Acid Structure and Function. (3 h)
Special topics in biochemistry including catalytic mechanisms of enzymes and ribozymes, use of sequence and structure databases, and molecular basis of disease and drug action. P-CHM 670 or POI.

CHM 676. Biophysical Chemistry. (3 h)
Introduction to a variety of technologies (e.g. thermochemistry, electrochemistry, spectrometry, and spectroscopy) for determining physical properties of biomolecules. From these properties, the biological function can be more readily understood and leveraged for medical gain. In addition to problem sets, students will have opportunities to hone science communication skills through a writing assignment and oral presentation. P-CHM 670 or POI.

CHM 681. Chemistry Seminar and Literature. (0.5 h)
Discussions of contemporary research and introduction to the chemical literature and acquisition of chemical information. May be repeated for credit. Pass/Fail only.

CHM 682. Chemistry Seminar and Literature. (0.5 h)
Discussions of contemporary research and introduction to the chemical literature and acquisition of chemical information. May be repeated for credit. Pass/Fail only.

CHM 701. Advanced Physical Chemistry. (3 h)
An accelerated survey of classical and statistical thermodynamics, chemical kinetics, and quantum chemistry.

CHM 711. Directed Study in Chemistry. (1-2 h)
Reading and/or lab problems carried out under supervision of a faculty member. P-Permission of graduate committee. May be repeated for credit if topic varies.

CHM 712. Directed Study in Chemistry. (1-2 h)
Reading and/or lab problems carried out under supervision of a faculty member. P-Permission of graduate committee. May be repeated for credit if topic varies.

CHM 721. Advanced Organic Chemistry. (3 h)
An accelerated survey of organic reactions and mechanisms.

CHM 722. Physical Organic Chemistry. (3 h)
Physical methods for determining structure-activity correlations and reaction.

CHM 723. Transition-Metal Organic Chemistry. (3 h)
Introduction to principles of bonding in organometallic chemistry and organometallic reaction mechanisms. Uses of transition-metal complexes in organic synthesis.

CHM 724. Organic Synthesis. (3 h)
Modern principles of organic synthesis and retrosynthetic analysis. Stereoselective synthesis of complex natural products.

CHM 725. Structure Identification in Organic Chemistry. (3 h)
Theory and use of spectroscopic techniques for structural identification of organic compounds.

CHM 726. Reactive Intermediates. (3 h)
Mechanistic and preparative photochemistry. Structure and chemistry of excited states, free radicals, carbenes, and selected ions.

CHM 735. Spectrochemical Analysis. (3 h)
Principles of atomic and molecular spectrometric methods; discussion of instrumentation, methodology, and applications.

CHM 736. Chemical Separations. (3 h)
Theory and practice of modern separation methods with emphasis on gas and liquid chromatographic techniques.

CHM 737. Electrochemical Processes. (3 h)
Principles of electrochemical methods, ionic solutions, and electrochemical kinetics.

CHM 738. Statistics for Analytical Chemistry. (3 h)
Practical investigation of the statistical procedures employed in modern analytical chemistry.

CHM 739. Special Topics in Analytical Chemistry. (3 h)
The study of topical fields of research in analytical chemistry, with a focus on one or more specialties, such as ICP-MS; fluorescence, LIBS; Raman spectroscopy; nanoparticles in analysis; biosensors; or others. May be repeated for credit if course content differs.

CHM 740. Drug Discovery, Design, and Development - Molecules to Medicines. (3 h)
Conducted as a combination of lectures, reading assignments, and student-led discussions. Examines drug discovery and development pathways from target and lead compound identification through metabolic and toxicology studies, clinical trials, FDA approval, and marketing. Regulatory processes, intellectual property, and ethical issues are also considered. Taught by WFU faculty from both the Reynolda and Bowman Gray campuses and colleagues in the pharmaceutical and biotechnology industries, students work in teams to present case studies on the discovery, development, and marketing of recently approved pharmaceuticals. Also listed as BAMB 740. P-Organic chemistry and biochemistry.

CHM 745. Statistical Thermodynamics. (3 h)
The application of statistical mechanics to chemistry to understand and predict the thermodynamic properties.

CHM 746. Chemical Kinetics. (3 h)
Kinetics and mechanisms of chemical reactions; theories of reaction rates.

CHM 747. Self-Organization in Nonequilibrium Chemistry. (3 h)
Study of the phenomena of self-organization, such oscillations, multistability, propagating waves, and formation of spatial patterns. Kinetic systems with autocatalysis will be studied using bifurcation theory and other methods of non-linear systems.

CHM 751. Biochemistry of Nucleic Acids. (1.5-3 h)
Survey of the structure, reactivity, and catalytic properties of RNA and DNA, including modern experimental techniques.

CHM 752. Protein Chemistry. (1.5-3 h)
Advanced survey of protein biochemistry with an emphasis on structural families, enzyme catalytic mechanisms, expression and purification methods, and biophysical and structural experimental techniques.

CHM 753. Chemical Biology. (3 h)
Survey of the origins and emerging frontiers of chemical biology, with a focus on the impact of chemical methods on our understanding of biology. Topics include protein design, chemical genetics, and methods in genomics and proteomics research.

CHM 754. Integrated Protein Design. (3 h)
Explores proteins from the ground up, emphasizing chemical principles of protein folding and stability.Integrates structural biology with chemical biology tools and modern computational design approaches. Students critically evaluate primary literature, lead discussions, and complete a capstone design project developing a novel protein concept.

CHM 755. Biomolecular Mass Spectrometry: Fundamentals and Applications. (1.5-3 h)
Designed for graduate and advanced undergraduates focusing on the principles of mass spectrometry and use in the anaylsis of small molecules, peptides, proteins, and nucleic acids. Covers sample preparation, data acquistion and interpretation, database searching, and quantification of molecules using a variety of techniques.

CHM 756. Biomolecular NMR. (1.5 h)
This is a one half-semester course designed for graduate and advanced undergraduates focusing on NMR of small oligonucleotides and proteins. The course will cover sample preparation, data acquisition and processing as well as generating solution structures from NMR data. A student should have command of 1D acquisition and processing as well as experience with 2D acquisition and processing before taking this class. All computational exercises will involve some familiarity with UNIX operating system. POI.

CHM 757. Macromolecular Crysallography. (1.5 h)
This is a one-half semester course designed for graduate and advanced undergraduates focusing on structural characterization of macromolecules utilizing x-ray crystallography. The course will cover sample preparation, diffraction theory, data acquisition and processing as well as structure solution and refinement techniques. P-CHM 356/656 highly recommended.

CHM 761. Chemistry of the Main Group Elements. (3 h)
Principles of bonding, structure, spectroscopy, and reactivity of compounds of the main group elements. Synthesis and applications of organometallic compounds of the main group.

CHM 762. Coordination Chemistry. (3 h)
Theory, structure, properties, and selected reaction mechanisms of transition metal complexes. Design and synthesis of ligands and their applications in bioinorganic chemistry.

CHM 764. Chemical Applications of Group Theory and Symmetry. (3 h)
Symmetry, group theory, bonding, and spectroscopy. Applications to structure, stereoisomers, multicenter bonding and symmetry-controlled reactions.

CHM 765. Bioinorganic Chemistry. (3 h)
The inorganic chemistry of life. a) Metals in biocatalysis: elucidation of structure and function of metalloenzymes by various spectroscopic and molecular biology methods; biomimetic ligands; synthetic models of active sites. b) Metals and toxicity. c) Inorganic compounds in therapy and diagnosis.

CHM 771. Quantum Chemistry. (3 h)
The quantum theory and its application to the structure, properties, and interactions of atoms and molecules. Theoretical and computational approaches.

CHM 791. Thesis Research I. (1-9 h)

CHM 792. Thesis Research II. (1-9 h)

CHM 829. Tutorial in Organic Chemistry. (3 h)

CHM 830. Heterocyclic Chemistry. (3 h)
Survey of the major groups of heterocyclic compounds. Modern applications of heterocycles.

CHM 831. Principles of Chemical Carcinogenesis. (3 h)
Fundamental chemistry of carcinogenesis. Survey of the chemistry and structure of carinogenic compounds. Defense and chemotherapeutics.

CHM 832. Theoretical Organic Chemistry. (3 h)
Molecular orbital treatment of structure and reactivity of organic molecules with emphasis on the applications of MO theory in pericyclic and photochemical reactions.

CHM 833. Advanced Reaction Mechanisms. (3 h)
Detailed analysis of mechanisms with emphasis on characterization of transition state structure.

CHM 838. Advances in Analytical Chemistry - Luminescence Spectroscopy. (3 h)
Instrumentation, methods, and applications of molecular luminescence spectroscopy.

CHM 839. Tutorial in Analytical Chemistry. (2-3 h)

CHM 843. Tutorial in Advanced Kinetics. (3 h)

CHM 844. Tutorial in Thermodynamics/Statistical Mechanics. (3 h)

CHM 848. Lasers in Physical Chemistry. (3 h)
Survey of lasers and their use to study physical-chemical processes. Topics include types of lasers, range of spectral and temporal operation, methods of detection, and application to specific chemical problems.

CHM 849. Tutorial in Chiral Asymmetry in Chemistry and Physics. (3 h)
Chiral asymmetry in nuclear, atomic, and molecular interactions. General group theoretic approach to spontaneous chiral symmetry breaking and the study of specific mechanisms.

CHM 861. Analytical and Inorganic Applications of Electrochemistry. (3 h)
Determination of inorganic and organic reaction mechanisms, electrochemical synthesis, applications to materials science.

CHM 862. Special Topics in Coordination Chemistry. (3 h)
Selected applications of transition metal chemistry such as in paramagnetic resonance (NMR, EPR), bioinorganic chemistry, and industrial process.

CHM 863. Crystallography. (3 h)
Crystal structure determination using powder and single crystal X-ray diffraction.

CHM 864. Modern Chemical Spectroscopy. (3 h)
Applications of vibrational, rotational, electronic, and nuclear spectroscopy to current problems in chemistry.

CHM 865. Metallopharmaceuticals. (3 h)
Design and mechanism of metal-containing pharmaceuticals in cancer therapy and diagnosis.

CHM 869. Tutorial in Inorganic Chemistry. (3 h)

CHM 871. Advanced Quantum Chemistry. (3 h)
Advanced quantum mechanical methods for the investigation of electronic structure and radiation-molecule interaction.

CHM 879. Tutorial in Theoretical Chemistry. (3 h)

CHM 888. Dependent Proposal. (3 h)
Course requires a written document detailing a proposed project and an oral exam covering the basic chemical principles, foundation of the plan and experimental design. Pass/Fail. Must be taken by the 6th semester of residence.

CHM 889. Independent Proposal. (3 h)
Course requires a written document and oral examination detailing a proposed project on a topic distinct from, but may be in the same general field as, the student's dissertation project. Pass/Fail. Must be taken by the 8th semester of residence.

CHM 891. Dissertation Research I. (1-9 h)

CHM 892. Dissertation Research II. (1-9 h)

Faculty

Program Director John Lukesh
Thurmond D. Kitchin Professor of Chemistry and Chair S. Bruce King
John B. White Professor of Chemistry Willie L. Hinze
Professors Rebecca W. Alexander, Ulrich Bierbach, Christa L. Colyer, Patricia C. Dos Santos, Bradley T. Jones, Abdessadek Lachgar, Akbar Salam
Associate Professors Lindsay R. Comstock, Amanda C. Jones, Paul B. Jones, John C. Lukesh

Assistant Professors Katherine I. Albanese, Wendu Ding, Elham Ghadiri, Mallory L. Green, Cedric Schaack, Troy A. Stich

Chemistry, MS

Master of Science Degree Requirements

The degree requires 30 credit hours; 24 hours of coursework with an average grade of B or above plus 6 hours of thesis/dissertation research. At least 12 of the 24 hours must be in courses numbered 700 or above. The remaining 12 hours may be in either 600 or 700 level courses. All work must be completed within six years of the date of initial enrollment in the graduate program.

For additional degree requirements, see Requirements for Degrees.

Chemistry, PhD

Doctor of Philosophy Degree Requirements

Students have no minimum required number of course hours. Courses taken are selected in consultation with the individual student's Advisory Committee. The degree requires an average grade of B or above, plus at least 6 hrs of thesis research (CHM 791 or 792) and at least 9 hrs of dissertation research (CHM 891 or 892).

For additional degree requirements, see Requirements for Degrees.

Communication (COM)

Master of Arts

Overview

Students who enroll are expected to have a strong undergraduate background and rationale for graduate work in communication. The program is designed primarily as a PhD preparation program. Most students will require two academic years to complete the program. The graduate program is associated with the Bioethics and Documentary Film graduate programs. Students have the opportunity to take classes in those areas as well. The program began in 1969.

Programs

Master of Arts

- Communication, MA

Courses

COM 602. Argumentation Theory. (3 h)
Examination of argumentation theory and criticism; emphasis on both theoretical issues and social practices. Offered in alternate years.

COM 603S. Directing the Forensics Program. (1-3 h)
A pragmatic study of the methods of directing high school and college forensics. Laboratory work in the High School Debate Workshop. Summer only.

COM 604. Freedom of Speech. (3 h)
Examination of the philosophical and historical traditions, significant cases, and contemporary controversies concerning freedom of expression. Offered in alternate years.

COM 605. Communication and Ethics. (3 h)
A study of the role of communication in ethical controversies.

COM 607. The Prophetic Mode in American Public Discourse. (3 h)
Investigates prophetism as a rhetorical act by examining Biblical forms of prophetic speech and investigating how these forms influence American public discourse.

COM 610. Media Production II. (3 h)
Students produce advanced media projects over which they assume significant creative control.

COM 612. Film History to 1945. (3 h)
Survey of the developments of motion pictures to 1945. Includes lectures, readings, reports, and screenings.

COM 613. Film History since 1945. (3 h)
Survey of the development of motion pictures from 1946 to present day. Includes lectures, readings, reports, and screenings.

COM 614. Media Effects. (3 h)
Theoretical approaches to the role of communication in reaching mass audiences and its relationship to other levels of communication.

COM 615. Communication and Technology. (3 h)
Exploration of how communication technologies influence the social, political, and organizational practices of everyday life.

COM 616. Screenwriting. (3 h)
An introduction to narrative theory as well as examination of the role of the screenwriter in the motion picture industry, the influence of film genre on screenwriting and the politics of nontraditional narrative structures. Students are expected to complete an original, feature-length screenplay.

COM 617. Communication and Popular Culture. (3 h)
Explores the relationship between contemporary media and popular culture from a cultural studies perspective using examples from media texts.

COM 619. Media Ethics. (3 h)
Examines historical and contemporary ethical issues in the media professions within the context of selected major ethical theories while covering, among other areas, issues relevant to jounalism, advertising, public relations, filmmaking, and media management.

COM 620. Media Theory and Criticism. (3 h)
Critical Study of media including a survey of major theoretical frameworks.

COM 629. The Arab-Israeli-Palestinian Conflict as a Communication Phenomenon. (3 h)
Explores the evolution of the Arab-Israeli-Palestinian conflict from the end of the Nineteenth Century to its contemporary dynamic as a communication phenomenon; focusing on the narratives of the parties to the conflict as viewed through the lens of extant communication-grounded conflict theory.

COM 630. Communication and Conflict. (3 h)
Review of the various theoretical perspectives on conflict and negotiation as well as methods for managing relational conflict.

COM 631. Communication and Terror. (3 h)
Examines domestic and international terrorism as grounded in extant communication theory, with emphasis on explicating the role that communication plays in current conceptualizations and responses to terrorism.

COM 634. Narrative Approaches to Entrepreneurship. (3 h)
Embraces narrative theory to examine how myths, stories, and other tropes form the basis on which we understand entrepreneurship. We will consider diverse and alternative stories as well as the construction of the neoliberal individual in a postmodern epoch.

COM 635. Survey of Organizational Communication. (3 h)
Overview of the role of communication in constituting and maintaining the pattern of activities that sustain the modern organization.

COM 636. Organizational Rhetoric. (3 h)
Explores the persuasive nature of organizational messages - those exchanged between organizational members and those presented on behalf of the organization as a whole. Offered in alternate years.

COM 637. Rhetoric of Institutions. (3 h)
A study of the communication practices of institutions as they seek to gain and maintain social legitimacy. Offered in alternate years.

COM 638. The Art of Twentieth-Century African-American Rhetoric. (3 h)
Explores how African Americans have invented a public voice in the twentieth century. Focuses on how artistic cultural expression, in particular, has shaped black public speech.

COM 639. Practices of Citizenship. (3 h)
Explores the history and theory of citizenship as a deliberate practice linked to the rhetorical tradition of communication with an emphasis on participatory and deliberative skills as part of the process in which communities are formed and citizens emerge as members.

COM 640. Democracy, Slavery, and Sex: Emancipation Discourse from the Founding to the Civil War. (3 h)
Examines the influence of emancipation movements on American public discourse by reading and analyzing original speeches and documents with emphasis on abolition of slavery and woman's rights.

COM 641. Class, Race, Sex and War: Emancipation Discourse from the Civil War to the Second Wave of Feminism. (3 h)
Examines the influence of emancipation movements on American public discourse by reading and analyzing original speeches and documents. Among the movements addressed are labor, civil rights, student protest, and women's liberation.

COM 642. Political Communication. (3 h)
Study of electoral communication including candidate and media influences on campaign speeches, debates and advertising. Offered in alternate years.

COM 643. Presidential Rhetoric. (3 h)
Examines theory and practice of speechmaking and mediated presidential communication.

COM 646. Sport, Media and Communication. (3 h)
Examines the role of sport in society, cultural, and institutional practice. Surveys the value represented by interpersonal and mediated messages regarding key dimensions of sport including competition, ethics, gender, and race.

COM 650. Intecultural Communication. (3 h)
Introduction to the study of communication phenomena between individuals and groups with different cultural backgrounds. Offered in alternate years.

COM 651A. Comparative Communication: Japan. (1.5-3 h)

COM 653. Persuasion. (3 h)
An examination of theories and research concerning the process of social influence in contemporary society.

COM 654. International Communication. (3 h)
In-depth look at the role of mass media in shaping communication between and about cultures using examples from traditional and emerging media systems.

COM 655. Health Communication. (3 h)
Examination of theories, research, and processes of health communication in contemporary society. May be repeated for credit.

COM 656. Health Communication: Patient-Provider. (3 h)
Explores contemporary issues related to comminication in health care contexts, notably theories and research on patient-provider communication.

COM 657. Health Communication Campaigns. (3 h)
Examination of the principles behind designing, implementing, and evaluating a health campaign, including message design and application of media theories for behavior change.

COM 664. Narrative, Communication, and Health. (3 h)
Combines theory and research in social science with narrative in multiple forms: film, visual art, memoir, short story, and poetry. Explores the power of story to transform human lives with an emphasis on health. Asks: What is narrative? How does narrative shape who we are? How does narrative inform our understanding and experience of wellness and illness? How does narrative influence health communication in our personal relationships? What role can narrative play in medical education, medical practice, and public health campaigns? Through careful study and reflection, students discover how story can create positive change on a personal, professional, and societal level.

COM 670. Special Topics. (1-4 h)
Examination of topics not covered in the regular curriculum.

COM 680. Great Teachers. (3 h)
Intensive study of the ideas of three noted scholars and teachers in the field of communication. Students interact with each teacher during a two- or three-day visit to Wake Forest.

COM 719. Theory and Research Design in Communication Science. (3 h)
Examination of communication science theory with a focus on critiquing and utilizing theory in research, accompanied by an overview of quantitative research design and methodology.

COM 720. Quantitative Analysis in Communication Science. (3 h)
Overview of statistical data anaylsis, interpretation, and reporting for communication research. P-COM 719.

COM 752. Contemporary Rhetorical and Communication Theory. (3 h)
Introduction to theory building in human communication and rhetoric, with a survey and evaluation of major contemporary groups of theorists. Approaches studied are those which emphasize the symbol (George Herbert Mead and Kenneth Burke), human relations (Martin Buber), the media (Marshall McLuhan), and systems (Norbert Wiener).

COM 753. Seminar in Persuasion. (3 h)
Study of contemporary social science approaches to persuasion theory and research. Influence is examined with interpersonal, social, and mass media contexts.

COM 758. Rhetorical Theory. (3 h)
Introduction to primary texts in the theory of rhetoric including classical theories, dramatism, semiotics, and critical/cultural studies.

COM 759. Rhetorical Criticism. (3 h)
The critical application of rhetorical theories aligning with the traditions covered in COM 758. P-COM 758.

COM 763. Proseminar in Communication. (1.5 h)
Introduction to graduate study in communication.

COM 764. Proseminar in Communication. (1.5 h)
Introduction to graduate study in communication.

COM 773. Seminar in Interpersonal Communication. (3 h)
Study of recent research and theoretical developments in dyadic communication. Methodology examined includes conversational analysis, field, and experimental approaches.

COM 774. Research and Theory of Organizational Communication. (3 h)
Advanced study of theoretical approaches to the role of communication in organizations and empirical application of such theories.

COM 780. Special Seminar. (1-3 h)
Intensive study of selected topics in communication. Topics may be drawn from any theory or content area of communication and offer a wide variety of special topics across a two year program. May be repeated for credit for a maximum of 12 hours.

COM 781. Readings and Research in Speech Communication. (1-3 h)
Students may receive credit for a special reading project in an area not covered by regular courses or for a special research project not related to the master's thesis. May be repeated for credit for a maximum of 16 hours.

COM 782. Readings and Research in Speech Communication. (1-3 h)
Students may receive credit for a special reading project in an area not covered by regular courses or for a special research project not related to the master's thesis. May be repeated for credit for a maximum of 16 hours.

COM 791. Thesis Research I. (1-9 h)

COM 792. Thesis Research II. (1-9 h)

Faculty

Program Director Jarrod Atchison
Chair Steven Giles
Associate Chair Marina Krcmar
Professors Jarrod Atchison, Mary Dalton, Sandra Dickson, Michael David Hazen
Woodrow Hood, Marina Krcmar, Ananda Mitra, Randall G. Rogan
Associate Professors Mollie Canzona, Steven Giles, Rebecca Gill, John Llewellyn, Alessandra Von Burg, Ron Von Burg, Eric Watts, Margaret D. Zulick
Assistant Professor Phillip Cunningham, Rowie Kirby-Straker
Associate Teaching Professors Polly Black, Nathaniel French
Professor of Practice Justin Green
Assistant Professors of Practice Cagney Gentry, Thomas Southerland
Affiliated Teaching Professors Peter Gilbert, Cara Pilson
Manager of Communication/Media Laboratory Ernest S. Jarrett

Communication, MA

Degree Requirements

Thesis Option

The degree requires 33 credit hours; 27 hours of coursework with an average grade of B or above plus 6 hours of thesis research. At least 18 of the 27 hours must be in courses numbered 700 or above. The remaining 9 hours may be in either 600 or 700 level courses of which 6 hours may be in electives outside the department. All work must be completed within six years of the date of initial enrollment in the graduate program.

The program requires a core of courses in research methodology and then allows students to take courses in content areas such as health communication, intercultural communication, interpersonal communication, mass communication, organizational communication, public communication, and rhetorical communication. In addition, the department provides work in communication ethics, communication technologies, and argumentation.

All students must demonstrate competence in a research skill relevant to their thesis and/or professional goals. Most students demonstrate their competency in empirical methodology or critical methodology; however, a foreign language also may be elected.

For additional degree requirements, see Requirements for Degrees.

Comprehensive Examination Option

Students are required to indicate their desire to take a comprehensive examination by the end of the first year. The degree requires 33 credit hours with an average grade of B or above. At least 24 of the 33 hours must be in courses numbered 700 or above. The remaining 9 hours may be in either 600 or 700 level courses of which 6 hours may be in electives outside the department. All work must be completed within six years of the date of initial enrollment in the graduate program. Students will be required to successfully complete a comprehensive examination at the end of completing the 33 hours of coursework.

For additional degree requirements, see Requirements for Degrees.

Computer Science (CSC)

Master of Science

Overview

The program is designed to accommodate students seeking a terminal MS degree or preparation for entering a PhD program.

In addition to the graduate school admission requirements, students entering the graduate program must have completed computer science coursework in the areas of programming in a modern high-level language, basic computer organization and architecture, data structures and algorithms, and principles of operating systems and networks. Students should also have completed mathematics courses equivalent to differential and integral calculus including infinite series, discrete mathematics, linear algebra, and probability and statistics.

Students in the program may apply to participate in the Data Science Certificate Program. On successful completion of this program, a student will earn an MS degree in computer science with a Certificate in Data Science. Current information about this program and an application link can be accessed on the Web at https://cs.wfu.edu/programs/data-science-certificate/

Students in the program may apply to participate in the Interdisciplinary Graduate Track in Structural and Computational Biophysics. On successful completion of this track, a student will earn an MS degree in computer science (thesis option) with a Certificate in Structural and Computational Biophysics.

Current information about the program and links to faculty interests can be accessed on the Web at http://college.wfu.edu/cs/.

Programs

- Computer Science, MS
- Computer Science, BS & MS Five Year Program

- Data Science, Certificate
- Structural and Computational Biophysics (SCB), Certificate

Courses

CSC 611. Computer Architecture. (3 h)
An in-depth study of computer systems and architecture design. Topics include processor design, memory hierarchy, external string devices, interface design, and parallel architectures.

CSC 621. Database Management Systems. (3 h)
Introduction to large-scale database management systems. Topics include data independence, database models, query languages, security, integrity, and transactions.

CSC 622. Data Management and Analytics. (3 h)
Management, analysis, and visualization of large-scale data sets. Topics include key-value databases, distributed file systems, map reduce techniques, similarity measures, link analysis, and clustering. P - CSC 621.

CSC 631. Software Engineering. (3 h)
Study of fundamental topics in software engineering including software processes, agile software development and project management, requirements engineering, system modeling, design patterns and implementation, and software testing. Students practice software engineering prinicples through team projects.

CSC 632. Mobile and Pervasive Computing. (3 h)
Study of the fundamental design concepts and software principles underlying mobile and pervasive computing, including mobile interface design, data management, mobile networks, location aware computing, and mobile security. Involves significant programiming on modern mobile platforms.

CSC 633. Principles of Translators for Compilers and Interpreters. (3 h)
Study of techniques for translating high-level programming languages to a target language. Typical target languages include Java bytecode and assembly language. Topics include lexical analysis, parsing, intermediate representatives, language semantics, code generation, and optimization.

CSC 641. Operating Systems. (3 h)
Study of the different modules that compose a modern operating system. In-depth study of concurrency, processor management, memory management, file management, and security.

CSC 643. Internet Protocols. (3 h)
Study of wide area connectivity through interconnection networks. Emphasis is on Internet architecture and protocols. Topics include addressing, routing, multi-casting, quality of service, and network security.

CSC 645. Cloud Platforms and Services. (3 h)
Study of cloud computing platforms and services. Emphasis is on infrastructure, platforms, and software as service models on contemporary cloud platforms. Topics include delivery and deployment models! virtual machines, containers, serverless, clustering, Kubernetes, operations, and security.

CSC 646. Parallel Computation. (3 h)
Study of techniques for parallel and high performance computing. Topcs include an overview of modern high-performance computer design, pipelining, concurrency, data depedency, shared memory, message passing, and graphics processors. Select parallel algorithms and methods for asymptotic scalability analysis are also presented. Assignments may include coding with OpenMP, MPI, and the CUDA library.

CSC 647. GPU Programming. (3 h)
An introduction to general purpose parallel program development on Graphics Processing Units (GPUs). Topics covered will include data parallelism, memory and data locality, parallel algorithm patterns and performance metrics, and application test studies.

CSC 648. Computer Security. (3 h)
Introduction to computer security concepts and associated theory. Detailed coverage of the core concepts of access control, cryptography, trusted computing bases, digital signatures, authentication, network security, and secure architectures. Legal issues, security policies, risk management, certification and accreditation are covered in their supporting roles. Students will learn to analyze, design, and build secure systems of moderate complexity.

CSC 652. Numerical Linear Algebra. (3 h)
Numerical methods for solving matrix and related problems in science and engineering using high-level matrix-oriented language such as MATLAB. Topics include systems of linear equations, least squares methods, and eigenvalue computations. Special emphasis is given to applications. Credit is not allowed for both CSC 652 and MTH 626.

CSC 655. Introduction to Numerical Methods. (3 h)
An introduction to numerical computations on modern computer architectures; floating point arithmetic and round-off error including programming in a scientific/engineering language such as MATLAB, C or Fortran. Topics include algorithms and computer techniques for the solution of problems such as roots of functions, approximations, integration, systems of linear equations and least squares methods. Credit not allowed for both MTH 655 and CSC 655.

CSC 671. Artificial Intelligence. (3 h)
Introduction to problems in artificial intelligence. Topics may include knowledge representation, heuristic search, formal logic, planning, robotics, machine learning, intelligent agents, and pattern recognition.

CSC 673. Data Mining. (3 h)
An overview of data mining methods and algorithms for classification, association analysis, clustering, and anomaly detection. A major focus will be on the implementation of algorithms for and design and construction of solutions to data mining problems. Applications and ethical considerations of data mining in humanities, arts, and healthcare are discussed.

CSC 674. Machine Learning. (3 h)
An introduction to concepts and application of machine learning algorithms and techniques, focusing on supervised and unsupervised learning. Students learn the theoretical concepts behind several types of machine learning algorithms and gain practical experience applying them. Algorithms covered could include logistic regression, support vector machines, regularization, dimensional reduction, clustering, and neural networks.

CSC 675. Neural Networks and Deep Learning. (3 h)
An introduction to concepts and applications of neural networks and deep learning, a branch of machine learning that uses additional layers of high-level representations of data to maximize performance on a given task. The topics covered may include basic neural networks, deep neural networks, and convolutional and recurrent neural networks. Students learn the theoretical concepts behind several of types of neural network algorithms and gain practical experience applying them.

CSC 676. Reinforcement Learning. (3 h)
Introduction to reinforcement learning concepts and applications, including single-agent and multi-agent setting. Topics may cover value- and policy-based methods, temporal-difference learning, exploration strategies, and safety of learned agents. Students gain theoretical understanding and practical experience applying reinforcement learning techniques.

CSC 685. Bioinformatics. (3 h)
Introduction to bioinformatics and computing techniques essential to current biomedical research. Primary focus is gene and protein sequence and structure databases and algorithms for sequence and structure analysis. Emphasizes interdisciplinary interactions and communication. Also listed as PHY 685 and BIO 685.

CSC 687. Computational Systems Biology. (3 h)
Introduction of concepts and development of skills for the comprehension of modern systems biology research problems, including both biological and computational aspects. Topics may include microarrays, protein interaction networks, large-scale proteomics experiments, and algorithms and computational approaches for modeling, storing, and analyzing the resulting data sets. Emphasizes interdisciplinary interactions and communication.

CSC 691. Selected Topics. (1-3 h)
Topics in computer science that are not studied in regular courses or which further examine topics begun in regular courses. P-POI.

CSC 693. Individual Study. (1-2 h)
Independent study directed by a faculty advisor. By prearrangement.

CSC 702. Theory of Computation. (3 h)
Basic theoretical principles of computer science. Topics include the relationship between automata and grammars, Church's thesis, unsolvability, and computational complexity.

CSC 721. Theory of Algorithms. (3 h)
Design and analysis of algorithms. Topics may include time and space complexity analysis, divide-and-conquer algorithms, the fast Fourier transform, NP-complete problems, and efficient algorithms for operations on lists, trees, graphs, and matrices.

CSC 726. Parallel Algorithms. (3 h)
A thorough, current treatment of parallel processing and supercomputing. Modern high-performance commercial architectures, parallel programming, and various supercomputing applications are discussed. Hands-on experience is emphasized. Students are given access to a variety of machines.

CSC 731. Compiler Optimization. (3 h)
Design and implementation of optimizing compilers. Optimization techniques, parallelizing transforms, and comparative examples form the literature. P-CSC 633.

CSC 743. Topics in Operating Systems. (3 h)
Issues in operating system development; resource management, queuing theory, concurrent processing, and languages for operating system development. P-CSC 641.

CSC 753. Nonlinear Optimization. (3 h)
The problem of finding global minimums of functions is addressed in the context of problems in which many local minima exist. Numerical techniques are emphasized, including gradient descent and quasi-Newton methods. Current literature is examined and a comparison made of various techniques for both unconstrained and constrained optimization problems. Also listed as MTH 753.

CSC 754. Numerical Methods for Partial Differential Equations. (3 h)
Numerical techniques for solving partial differential equations (including elliptic, parabolic, and hyperbolic) are studied along with applications to science and engineering. Theoretical foundations are described, and emphasis is on algorithm design and implementation using either C, FORTRAN or MATLAB. Also listed as MTH 754. P-CSC 655 or MTH 655.

CSC 765. Image Processing. (3 h)
Advanced techniques in image processing including image formation and corruption models, digitization, Fourier domain methods, enhancement, restoration, and tomographic reconstruction. P-CSC 721.

CSC 766. Pattern Recognition. (3 h)
Study of statistical pattern recognition techniques and computer-based methods for decision-making, including discriminant functions, feature extraction, and classification strategies. Emphasis is on applications to medical image analysis. P-POI.

CSC 767. Computer Vision. (3 h)
Techniques for extracting features from images: optimal thresholding, 2D and 3D feature measurement, graph isomorphism and graph matching methods. P-CSC 766.

CSC 775. Neural Networks. (3 h)
Design of artificial neural networks. Introduction to the relevant neurophysiology, feedforward networks, recurrent networks, and applications to pattern recognition and optimization.

CSC 779. Topics in Artificial Intelligence. (3 h)
Advanced topics in artificial intelligence. Individual projects are assigned. P-CSC 671.

CSC 781. Computer Science Seminar. (1 h)
Discussions of contemporary research.

CSC 790. Advanced Topics. (3 h)
Advanced topics of current interest in computer science not covered by existing courses. P-POI.

CSC 791. Thesis Research I. (1-9 h)
May be repeated for a maximum of 18 hours each. Satisfactory/Unsatisfactory.

CSC 792. Thesis Research II. (1-9 h)
May be repeated for a maximum of 18 hours each. Satisfactory/Unsatisfactory.

CSC 795. Project. (3 h)
Satisfactory/Unsatisfactory.

CSC 796. Internship. (1-6 h)
Provides students an opportunity to integrate computer science theory and practice by working in a supervised and professional setting. The course is limited to those seeking the fifth-year Master's in computer science and approval must be obtained by the Computer Science Graduate faculty prior to enrollment. Credit hours may be adjusted based on the length of the internship. May be repeated. Satisfactory/Unsatisfactory. P-CSC 631 (admission to the 5th year program).

Faculty

Program Director William Turkett
Chair William Turkett
Emeritus Professors Jennifer Burg, David John, Stan Thomas
Professors Errin Fulp, V. Paúl Pauca, Peter Santago
Associate Professors Sarra Alqahtani, Grey Ballard, Daniel A. Cañas, Minghan Chen, Samuel S. Cho, Natalie Khuri, William Turkett
Assistant Professors Aditya Devarakonda, Fan Yang, Ying Zhang
Assistant Teaching Professor William Cochran

Assistant Professor of the Practice Sarah Parsons
Wright Presidential Chair Roy Doyle
Visiting Assistant Professor Rob Robless
Affiliate Faculty Hussein Abdeltawab, Samuel Cho, Jennifer Erway

Computer Science, MS

Degree Requirements

Completion of the degree requirements may be fulfilled in one of three ways: thesis, project, and coursework-only. The degree with a thesis requires 31 semester hours, including six hours of thesis research (CSC 791, CSC 792) and a successfully completed thesis. The degree with a project requires 37 semester hours, including three hours of project research (CSC 795) and a successfully completed project. The coursework-only degree requires 37 semester hours of coursework.

The following courses are identified as the core courses for the degree and are required of all students:

Code	Title	Hours
CSC 631	Software Engineering	3
CSC 641	Operating Systems	3
CSC 721	Theory of Algorithms	3
CSC 781	Computer Science Seminar	1

The remaining hours are then selected from graduate computer science courses. For the thesis, project, and coursework-only options, at least nine of the remaining hours must be selected from 700-level courses other than:

Code	Title	Hours
CSC 791	Thesis Research I	1-9
CSC 792	Thesis Research II	1-9
CSC 795	Project	3

Graduate courses may be taken outside of the department to fulfill requirements with prior approval from the graduate program director; however, no more than six such hours may count toward the degree.

For additional degree requirements, see Requirements for Degrees.

Counseling (CNS)

Master of Arts in Counseling
Master of Arts in Human Services
Overview

The Master of Arts in Counseling degree is awarded to candidates who successfully complete a minimum of sixty semester hours in a planned and directed program of study. The program consists of a common core of courses to provide knowledge in eight areas: human growth and development, social and cultural foundations, helping relationships, group work, career and lifestyle development, appraisal, research and program evaluation, and professional orientation. The program also supplies clinical instruction with practicum and internship experiences. In addition, students must select a program specialty area-school counseling, clinical mental health counseling, or addiction counseling-in which they complete their internships and take courses that assure at least entry-level competence.

Continuance in the program and admission to candidacy are based on success in academic courses and on personal, ethical, and performance considerations.

Graduates are eligible to sit for the National Counselor Examination. Those who complete the school counseling program are eligible to apply for licensure with the public schools of North Carolina.

Admission to the Program

Admissions decisions are based on consideration of a combination of criteria: college grade-point average, recommendations, professional commitment, work or volunteer experience in the human services field, and suitability for the profession. Applicants being considered for admission are required to have a personal interview with a program representative. Candidates for the counseling program are not required to have a specific undergraduate major or minor.

Beginning the Spring 2025 term, to confirm enrollment to Wake Forest University's Online Counseling program, admitted students must pay a deposit of $250. All admission deposits are nonrefundable and must be submitted when the student accepts their offer of admission in their admissions portal. The applicable deposit is credited to the student's charges for the semester for which the student has been accepted.

Criminal Background Check

Acceptance to the program will be contingent on the successful completion of a criminal background check. The background check is standardized and mandatory for all students. Any student who has a criminal offense documented through this procedure will have to address this on a case-by-case basis with the Program Director and Department Chair. Areas of concern may include, but are not limited to, felony convictions, especially those involving harm to others, theft or fraud convictions, and patterns of misdemeanors other than moving traffic violations.

On Campus and Online Programs

There are three counseling tracks offered through the Department of Counseling: the school counseling track, the clinical mental health counseling track, and the addiction counseling track. Each is offered on campus and via online delivery systems. The campus programs are for full-time students. Applications are accepted for entry into the on-campus programs for the fall semester only. The online programs are for part-time students. Applications are accepted for entry in the online programs for the fall, spring, and summer semesters. Course and admission requirements for on-campus and online students are the same.

Master of Arts in Counseling - School Counseling

The school counseling track provides prospective school counselors with the knowledge, skills, and competence necessary to establish and conduct effective developmental guidance and counseling programs in schools, kindergarten through the 12th grade. The course of study which leads to a license in school counseling in North Carolina is based on the requirements of the North Carolina Department of Public Instruction and is accredited by the Council on Accreditation of Counseling and Related Educational Programs (CACREP). School counseling students are not required to hold a teacher's license to enter the program.

Master of Arts in Counseling - Clinical Mental Health Counseling

In the clinical mental health counseling track, students are prepared for counseling in a wide variety of community settings and agencies.

The course of study is accredited by the Council on Accreditation of Counseling and Related Educational Programs (CACREP).

Master of Arts in Counseling - Addiction Counseling

In the addiction counseling track, students are prepared for counseling in addiction recovery settings and in a variety of community settings and agencies. The course of study is not yet accredited by the Council on Accreditation of Counseling and Related Educational Programs (CACREP).

Master of Arts in Human Services (Online Only)

The Master of Arts in Human Services degree is offered by the Department of Counseling via online delivery only. The degree is awarded to candidates who successfully complete a minimum of 39 semester hours in a planned and directed program of study. The program consists of 30 hours of courses in common with the Master's in Counseling program, an additional 6 hours of specialized study in human services administration and programming, and 3 hours of field experience. Applications are not currently being accepted for entry in this program.

Residency Requirements – Online Only

Two Thursday night through Sunday at noon residency experiences are required for online classroom students. These face-to-face sessions will allow faculty to engage in competency and readiness evaluations as well as to plan and evaluate practicum and internship arrangements. Students will also complete the experiential group requirements at this time. Dates will be announced six months in advance.

Programs

- Counseling, MA
- Counseling, MDiv/MA
- Addiction Counseling, Certificate

Courses

All courses listed are open to counseling students only unless otherwise noted.

CNS 721. Research and Statistical Analysis in Counseling. (3 h)
Qualitative and quantitative research methods. Analysis and evidence-based evaluation of research-based literature in the counseling field. Grant writing. Program evaluation. Descriptive, Inferential, parametric and non parametric statistical procedures involved in research.

CNS 723. Statistical Analysis for the Helping Professions. (3 h)
Descriptive and inferential (parametric and nonparametric) statistical procedures involved in research. Computer methods for statistical analysis. Counseling students only.

CNS 736. Appraisal Procedures for Counselors. (3 h)
Appraisal, assessment, and diagnosis of personality, emotional, intellectual, and learning characteristics and disorders of clients in schools, colleges, and community human service agencies. Use of tests in counseling as an adjunct to clinical impressions.

CNS 737. Basic Counseling Skills and Techniques. (3 h)
Basic communication skills, helping relationships, and strategies for personal change. Issues and ethics in counseling.

CNS 738A. Counseling Practicum - School. (3 h)
Supervised experience for the development of individual and group counseling skills under individual and group supervision in a school or clinical mental health agency. Involvement in direct service work and activities similar to those of regularly employed professional staff. P-CNS 737.

CNS 738B. Counseling Practicum - Clinical Mental Health. (3 h)
Supervised experience for the development of individual and group counseling skills under individual and group supervision in a school or clinical mental health agency. Involvement in direct service work and activities similar to those of regularly employed professional staff. P-CNS 737.

CNS 739. Advanced Counseling Skills and Crisis Management. (3 h)
Topics covered will be advanced and specialized counseling interventions including crisis intervention, suicide prevention, and emergency management models. Students will be required to demonstrate appropriate skill level. P-CNS 737.

CNS 740. Professional Orientation to Counseling. (3 h)
Covers the history, roles, organizational structures, ethics, standards, specializations, and credentialing in the profession of counseling. Public policy processes and contemporary issues are also considered.

CNS 741. Theories and Models of Counseling. (3 h)
Study of theories and approaches to professional counseling: psychoanalytic (Freud, Adler, Jung), person-centered (Rogers), existential (May, Frankl), behavioral (Skinner, Glasser), cognitive/rational (Ellis), holistic/systemic, eclectic. Professional orientation, issues, ethics, cultural pluralism, and trends in counseling.

CNS 742. Group Procedures in Counseling. (3 h)
An experiential and conceptual exploration of the psychological dynamics and interpersonal communication of small groups, including group structure, leadership models, group process and practice, stages of group development, group techniques, and ethical principles.

CNS 743. Career Development and Counseling. (3 h)
Vocational development throughout life; psychological aspects of work; occupational structure and the classifications of occupational literature; theories of vocational choice and their implications for career counseling.

CNS 744A. Counseling Internship I: School. (2-3 h)
Supervised counseling experience in a school, college, or community agency under a regularly employed staff member professionally trained in counseling. Observation of and active participation in direct service work to clients. Monitoring of audio or videotaped interviews. Case review. P-CNS 738.

CNS 744B. Counseling Internship I: Clinical Mental Health. (2-3 h)
Supervised counseling experience in a school, college, or community agency under a regularly employed staff member professionally trained in counseling. Observation of and active participation in direct service work to clients. Monitoring of audio or videotaped interviews. Case review. P-CNS 738.

CNS 744C. Counseling Internship I: Addiction. (2-3 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 738.

CNS 745A. Counseling Internship II: School. (2-3 h)
Supervised counseling experience in a school, college, or community agency under a regularly employed staff member professionally trained in counseling. Observation of and active participation in direct service work to clients. Monitoring of audio or videotaped interviews.P-CNS 744.

CNS 745B. Counseling Internship II: Clinical Mental Health. (2-3 h)
Supervised counseling experience in a school, college, or community agency under a regularly employed staff member professionally trained in counseling. Observation of and active participation in direct service work to clients. Monitoring of audio or videotaped interviews. P-CNS 744.

CNS 745C. Counseling Internship II: Addiction. (2-3 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 744.

CNS 746. Counseling Children. (3 h)
Theory and practice of counseling with children in schools and community agencies. Elementary school counseling; models, methods, and materials. Counseling children with special emotional, learning, psychological, or behavioral concerns.

CNS 747. Cultures and Counseling. (3 h)
The influence of culture in human development and in counseling relationships. A study of personal and ethnic diversity and commonality.

CNS 748. Life Span Development: Implications for Counseling. (3 h)
Examination of major theories and principles of human development across the life span, including physical, psychological, intellectual, social, and moral perspectives.

CNS 749. School Guidance and Counseling. (3 h)
The organization and management of comprehensive school guidance and counseling programs. Individual and group counseling, consultation, coordination, and collaboration in student services in schools. Program development in elementary, middle, and secondary schools.

CNS 750. The Vienna Theorists-Freud, Adler, Moreno and Frankl. (3 h)
Examination of the original writings of four of the leading theorists of modern counseling, which is enhanced by a visit to the city in which they initially formulated their clinical ideas. Students read and discuss several original writings of each practitioner-Freud, Adler, Moreno, and Frankl-prior to and during a two-week stay in the Wake Forest University Flow House in Vienna during which they visit relevant historical sites and institutes.

CNS 752. Human Services Administration. (3 h)
This course will focus on the knowledge, theory, and skills used in the administrative aspects of the human services delivery systems including organizational management, supervision, strategic planning, budgeting, grant and contract negotiation, and legal/regulatory issues. The course also covers managing the professional development of staff, recruiting and managing volunteers, and advocacy techniques. P-CNS 737, 741, and 742.

CNS 753. Human Services Program Planning and Evaluation. (3 h)
This course will focus on the range and characteristics of human services delivery systems and major conceptual models used to integrate prevention, maintenance, intervention, and rehabilitation and healthy functioning. The course includes the history of human services as well as the systematic analysis of service needs. The course also covers the selection of strategies or interventions and the evaluation of outcomes. P-CNS 737, CNS 741, and CNS 742.

CNS 754. Human Services Field Experience. (1-3 h)
Field experience is a learning experience in a human services delivery organization in which the student will complete 350 hours of on-site volunteer work with an agency. Students, university supervisors, and on-site partners will determine the student's role, activities, outcomes, and instructional needs based on placement site possibilities. P-CNS 752 and CNS 753.

CNS 755A. Counseling Internship III: School. (2 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 745A.

CNS 755B. Counseling Internship III: Clinical Mental Health. (2 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 745B.

CNS 755C. Counseling Internship III: Addiction. (2 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 745C.

CNS 760. Issues in School Counseling. (3 h)
This course is designed to allow students to investigate current issues related to the practice of school counseling. The emphasis will be on identifying appropriate prevention responses to these issues. Counseling students only.

CNS 762. Case Formulation and Treatment Planning in Clinical Mental Health Counseling. (3 h)
Examines case conceptualization (e.g., assessment, diagnosis) and treatment planning in clinical mental health counseling settings as well as contemporary issues related to clinical mental health counseling. Explores ethical and professional considerations for counselors' interfacing with the legal system and in integrated behavioral health settings.

CNS 763. Specialized Study in Counseling. (1-3 h)
Exploration of special topics or areas of practice in the field of counseling. a. School Guidance and Counselingb. College Student Development Services Counselingc. Mental Health Counselingd. Marriage and Family Counselinge. Business/Industry Counselingf. Correctional Counselingg. Career Counselingh. Rehabilitationi. Adult Development/Aging j. Religious Counselingk. Health Counseling l. Multicultural Counselingm. Holistic Counselingn. Tests, Measurements and Interpretation.

CNS 764. Creative Arts in Counseling. (1-3 h)
Examines history, theories, processes, and techniques of using the creative arts in counseling with clients throughout the life span. Particular attention is given to the visual and verbal arts, such as drawing, imagery, photography, cartooning, cinema, movement, dance, literature, drama, and music.

CNS 765. Addiction Counseling. (3 h)
Introduces the concepts of chemical dependency, counseling procedures and techniques, and treatment considerations. The student has opportunities to apply models of chemical dependency counseling to hypothetical situations at various stages of substance use.

CNS 766. Crisis Prevention and Response. (3 h)
This course will present counseling approaches which effectively address crises. The course will examine the characteristics and impact of trauma and crisis and potential neurobiological responses. Students will gain knowledge and skills useful in theory-based prevention and response models and community-based strategies for a diverse soceity. Students will also explore counseling and human service contexts for application of assessment and intervention approaches in addressing specific crisis situations.

CNS 767. Human Sexuality. (3 h)
This course is designed for counseling students whose work will bring them into contact with clients experiencing problems and concerns with their sexuality. The course is designed to develop: a) students' knowledge base related to human sexuality, b) an understanding of the varied sexuality issues which may be encountered in professional counseling practice, c) students' skills in assessment and intervention skills with sexuality issues and d) increased awareness of one's personal perceptions, attitudes and affect related to sexuality issues. Course participants will become more effective in identifying, assessing, and intervening with human sexuality related counseling issues.

CNS 768. PsychoPharmacology for Counselors. (3 h)
Students will learn the basic prinicples of psychopharmacology, pharmacokinetics, and neurobiology as they pertain to their role as a professional counselor. They will learn how psychopharmacological drugs are classified, prescribed, and managed. The information presented in this course will prepare student to function as knowledgeable members of multi-disciplinary treatment teams serving clients seeking counseling services. Finally, students will gain knowledge about the important and complex ethical and legal issues that surround the use of psychopharmacological drugs.

CNS 769. Advanced Counseling in a Diverse Society. (3 h)
An advanced investigation into the complex elements of racism, social justice, and advocacy in the counseling relationship and beyond. An exploration of systemic disparities (ex. food deserts and health care) as well as anti-racist perspectives and actions in a diverse society, further promoting an in-depth personal and professional examination of implicit and explicit biases.

CNS 770. Classification of Mental and Emotional Disorders. (3 h)
Analyzes healthy and unhealthy personality, as well as developmental and situational problems in adjustment. Studies the classification of mental disorders, as defined by the American Psychiatric Association in the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders. Examines appropriate ways in which diagnosis can be utilized by counselors to explore personality and systemic interventions for career, educational, and relationship concerns.

CNS 771. Clinical Mental Health Counseling. (3 h)
History, philosophy, organization, management, and delivery of counseling services in various clinical mental health settings. Preventative, developmental, and remedial strategies for use with various populations.

CNS 772. Marriage and Family Systems. (3 h)
Study of the institutions of marriage and the family from a general systems perspective. Exploration of how changes in developmental and situational aspects of the family life cycle influence individuals within the systems of marriage and the family. Both horizontal and vertical dimensions of change are focused on through the use of genograms. Different forms of family lifestyles, such as dual career, single parent, and blended are covered.

CNS 773. Family Counseling. (3 h)
Examination of the philosophy and goals of seven major theories of family counseling (Bowenian, Adlerian, psychodynamic, experiential/humanistic, behavioral, structural, strategic) as well as the development of the profession of family counseling from a historical and current trends perspective. Differences between family counseling and individual/group counseling are highlighted and ethical/legal considerations for working with family units are stressed. Techniques associated with theories are demonstrated through video and play simulations. Research methods for gathering data on families are highlighted.

CNS 774. Marriage Counseling. (3 h)
Study of the philosophy and goals of six main theories of marriage counseling (psychoanalytic, social learning, Bowenian, structural-strategic, experiential/humanistic, and rational-emotive) and the techniques associated with each. Historical and current trends associated with the field of marriage counseling are explored, along with related issues such as premarital counseling, family-of-origin influences within marriage, and widowhood. Appropriate marriage assessment instruments, research methods, and ethical/legal questions involved in marriages counseling are addressed.

CNS 775. Marital and Family Health and Dysfunctionality. (3 h)
Examines system and individual dynamics associated with marital and family health and dysfunctionality. Longitudinal research on factors connected with healthy, long-term marriages and functional family life are explored. Interactive patterns that lead to such marital and family dysfunctionality as spouse and child abuse, anorexia nervosa, addictive disorders, and dependency are examined.

CNS 776. Assessment and Treatment Planning in Addictions. (3 h)
Examines screening, assessment, and diagnosis of addiction and co-occurring disorders. P-CNS 765, POI, or a masters degree in the counseling field.

CNS 777. Addictions Counseling Skills. (3 h)
Explores the development of skills for individual and group counseling with persons diagnosed with addictive and co-occurring disorders.

CNS 778. Addiction and the Family. (3 h)
Explores the influence of addiction on family systems. Covers knowledge and skills for assisting individuals and families with substance abuse and addiction. P-CNS 765, POI, or a masters degree in the counseling field.

CNS 780. Professional, Ethical and Legal Issues in Counseling. (2 h)
Provides an overview of the critical professional issues in counseling with emphasis on current ethical, legal, and values-related questions and the relationship of these issues to the counselor's role in training, supervision, consultation, appraisal, and research. P-Advanced graduate standing or permission of instructor.

CNS 782. Developmental Counseling Psychology. (3 h)
Theoretical, research, and methodological aspects of a developmental/holistic/systems framework for counseling. Integration and application of major theories and approaches to counseling.

CNS 786. Consultation and Technology in Counseling. (2 h)
This course examines the theory and application of consultation in counseling! including consultation with families, schools, colleges and community agencies. The course also explores technologies used in counseling practice, and the ethical and practical implications of engaging in technology assisted counseling such as distance counseling.

CNS 790. Professional Identity Capstone. (2 h)
Review and application of counseling skills, settings, practice parameters and other current issues necessary to integrate students into the profession of counseling. P-CNS 744.

Faculty

Department Chair: David A. Johnson
Associate Department Chair: Isabel C. Farrell
Program Directors Jamie E. Crockett and Saundra L. Penn
Online Program Director Allison M. Forti
Associate Online Program Director Donald R. Casares and Seth C. W. Hayden
Professor Emeriti Thomas Elmore, Samuel T. Gladding, Donna A. Henderson, Deborah W. Newsome, Robert Nations

Professors Nathaniel N. Ivers, Mark B. Scholl, José A. Villalba
Associate Professors Erin E. Binkley, Donald R. Casares, Jamie E. Crockett, Isabel C. Farrell, Michelle R. Ghoston, Seth C.W. Hayden, David A. Johnson, Jennifer L. Rogers
Assistant Professors Jasmine Graham, Tameka Grimes, Amy L. Grybush
Teaching Professor Allison M. Forti
Associate Teaching Professors Tammy H. Cashwell, Philip B. Clarke, Nikki C. Elston, George Stoupas
Assistant Teaching Professors Sharon B. Jones, Sarah A. Moore, Saundra L. Penn, Kenneth W. Simington, Brittany E. Wyche
Visiting Assistant Professor Ivana Stoilovich

Counseling, MA

Degree Requirements

The Master of Arts degree in Counseling is awarded to candidates who successfully complete a minimum of 60 hours in a planned and directed program of study. Courses required by the program cannot be taken as Pass/Fail unless they are offered only on that basis.

For additional degree requirements, see Requirements for Degrees.

Documentary Film Program (DOC)

Master of Fine Arts
Master of Arts

Overview

The Documentary Film Program offers an MFA degree through a two-year course of study and an MA through a one-year course of study. The program admits both full-time and part-time students.

The comprehensive curriculum is designed not only to equip students with the skill set needed to produce professional quality films, but also to develop a respect for the traditions of the craft, an understanding of the economic aspects of the industry, and the intellectual discipline required to translate a creative vision into film. While this is a skills intensive curriculum, it is also a plan of study that emphasizes the social awareness elements that lie at the heart of the documentary tradition. The faculty believes it is imperative to impart to students the power and responsibility documentary filmmakers have in a world increasingly dependent on the moving image to educate, inform, and affect change.

Programs

- Documentary Film, MA
- Documentary Film, MFA

Courses

DOC 600. Applied Communications Strategies I. (3 h)
Applied Communications Strategies I introduces students to practical approaches for developing clear,effective, and audience-centered communication strategies across a variety of professional contexts.

DOC 601. Applied Communications Strategies II. (3 h)
Applied Communications Strategies II builds on foundational skills by focusing on advanced techniques for persuasive messaging, strategic storytelling, and adaptive communication.

DOC 701. Internship I. (1.5 h)
Internships may be taken for 1.5 credits on a pass/fail basis when approved by faculty members. These internships provide students the opportunity for experiential learning at production houses, television networks, public television stations, and at other facilities deemed useful as well as with independent producers.

DOC 702. Internship II. (1.5 h)
Internships may be taken for 1.5 credits on a pass/fail basis when approved by faculty members. These internships provide students the opportunity for experiential learning at production houses, television networks, public television stations and at other facilites deemed useful as well as with independent producers.

DOC 703. Internship. (3 h)
Internships provide students the opportunity for experiential learning at production houses, television networks, public television stations, and at other facilities deemed useful as well as with independent producers.

DOC 713. Documentary Storytelling I. (3 h)
The course provides an introduction to the fundamental theory and craft of non-fiction visual storytelling and familiarizes students with concepts such as drama, structure, story development and visual style.

DOC 715. Cinematography and Sound. (3 h)
Through a combination of lectures, film screening and hands-on demonstrations, this course will familiarize students with the basics of documentary shooting, lighting, and sound gathering.

DOC 717. Fundamentals of Documentary Editing. (1.5 h)
Through a combination of lectures, film screenings, hands-on demonstrations, and assignments, this course familiarizes students with the basics of documentary editing.

DOC 718. Social Media and Marketing in the Creative Arts. (3 h)
Social Media and Marketing in the Creative Arts will take a deep dive on how social media is changing not just what content creators produce, but also changing the way creators engage with their audience by using social media and marketing techniques to drive attention to their work and enhance their overall brand. This course will survey how communication is continually changing, different forms of social media as well as creativity in the digital space. Through guest lectures, case studies and hands-on production - students will study each media platform, learn how it's being used and see how it can be leveraged on enhance all aspects of the creative arts. Course may be offered on campus or online.

DOC 722. Documentary Storytelling II. (3 h)
This course teaches students how to research, conceptualize, and develop a non-fiction story idea. Students receive instruction on effective research strategies, idea development, production planning, and proposal writing and pitching.

DOC 724. Advanced Story Editing. (3 h)
Builds upon the storytelling skills learned in the Foundations of Story Editing course and complements the production techniques learned in Cinematography and Sound. Special emphasis will be placed on the aesthetics of editing and other post-production techniques.

DOC 726. Advanced Sports Storytelling. (3 h)
Advanced Sports Storytelling is a course designed to introduce students to both the theoretical and technical aspects of non-fiction sports storytelling. Students will examine both historical and contemporary examples of sports storytelling, including various styles of documentaries, branded and commercial content, social media and web-based content, and podcasts. In addition to engaging with and discussing the theoretical aspects of this content, students will also be provided with the technical principles required of sports storytelling, including cinematography, lighting, audio design, and video editing.

DOC 728. Documentary History. (3 h)
The purpose of this course is to acquaint students with the historical development of documentary film from its roots in 19th-century art forms to the present. The course will examine various styles and techniques of documentary and will analyze the contribution of the documentary as a persuasive means of communication to achieve social and political goals. This course is open to all Wake Forest University graduate students.

DOC 730. Sports, Culture and Society. (3 h)
Through films, case studies and discussions with sports professionals, media industry leaders and scholars we will look at how sports helps frame our common understanding of society's biggest social issues including race, gender, and human rights.

DOC 733. The Business of Sports Media. (3 h)
Students will get a high level understanding of the business of sports media and how the digital revolution is changing the game for content creators, leagues and teams. Through lectures, current periodicals, projects and guest speakers, students will learn to look beyond the final score and better understand the entire sports communication eco-system.

DOC 734. Advanced Cinematography and Sound. (3 h)
This course provides instruction in advanced cinematography, sound, and lighting techniques.

DOC 735. Documentary Law and Ethics. (3 h)
Provides students with the opportunity to explore the ethical issues that can arise in documentary filmmaking. The discussion points will evolve from the in-depth examination of a select group of films and directors.

DOC 737. Documentary Storytelling III. (3 h)
The class focuses on advanced principles of writing, producing, directing and editing documentary films. Theoretical, aesthetic, technical and ethical aspects of the creative non-fiction storytelling process will be the focus. The class format will be a combination of theory and practice as it relates to the dramaturgical process of filmmaking.

DOC 746. Documentary Storytelling IV. (3 h)
The course combines lectures, screenings, and exercises to build a technical and aesthetic foundation in digital post-production. Special emphasis will be placed on advanced visual storytelling techniques--including continuity, pacing, character development and dramatic structure. Students will also explore various distribution strategies and transmedia applications.

DOC 748. Creative Thesis Project. (1-9 h)
Students will work under faculty supervision on their creative thesis projects.

DOC 750. The Imagination Project. (3 h)
Students will produce short films, digital study guides or E-books and/or other types of multimedia materials on important social, political, cultural and economic issues. The course, structured around digital media projects, provides opportunities for students to immerse themselves in a single topic and interact with scholars from various disciplines. The topics will vary each year.

DOC 751. Professional Seminar: Teaching in Higher Education. (3 h)
Provides an understanding of pedagogical practices and major theories of curriculum and a foundation for students interested in pursuing careers in academe.

DOC 753. Individual Study. (1-3 h)
For students who wish to perform independent study in a cognate area with a professor from the Documentary Film Program or another program. May be repeated for credit for a maximum of 9 hours.

DOC 755. Professional Seminar: Entrepreneurial Filmmaking. (3 h)
This course will provide students with the knowledge and skills to help them create their own creative arts venture and help them design and teach a course in entrepreneurship in the creative arts, particularly digital media and non-fiction filmmaking.

DOC 764. Individual Study. (1-3 h)
For students who wish to perform independent study in a cognate area with a professor from the Documentary Film Program or another program. May be repeated for credit for a maximum of 9 hours.

DOC 766. Teaching Practicum. (3 h)
Students works closely with Documentary Film program faculty during the teaching of an undergraduate course. Students participate in the design and development of course material and observe classroom and organizational aspects of teaching in an apprenticeship role.

DOC 780. Special Topics. (1-3 h)
Intensive study of selected topics in documentary film. Topics may be drawn from any content area of documentary studies and production. May be repeated for credit for a maximum of 6 hours.

Faculty

Program Director Christopher Zaluski
Teaching Professor Cara Pilson
Professor of Practice Peter Gilbert
Professor of Practice Christopher Sheridan

Documentary Film, MA

Degree Requirements

The MA requires 33 hours. Students take required courses in writing, directing, and producing with an emphasis on sports storytelling. In addition, they explore the social, political, and cultural impacts of sports as well as the business of sports media. All students develop and produce a short thesis film.

For additional degree requirements, see Requirements for Degrees.

Documentary Film, MFA

Degree Requirements

The MFA requires 48 hours. The first year of the program is dedicated to documentary core courses such as research, theory, writing, directing, and producing and the development of the thesis film. The second year builds on the foundation of the first year of study with courses in

entrepreneurship and academic career preparation. Students may also take elective courses in an area of special interest.

For additional degree requirements, see Requirements for Degrees.

Education (EDU)

Master of Arts in Education

Overview

The Department of Education offers professional graduate programs in the field of education. The goals and requirements for these programs are available in the Licensure Office of the department. Candidates for the Master of Arts in Education degree seeking a North Carolina Class M Teacher's License must possess a North Carolina Class A Teacher's License or its equivalent. Master Teacher Fellows are not expected to hold a teacher's license when they enter the program.

Initial Licensure Program

Master Teacher Fellows (MTF). This program involves coursework and fieldwork, including one semester of full-time student teaching. It is offered at the Secondary (grades 9-12) and Elementary (grades K-6) levels. For secondary education, students must have a bachelor's degree (or equivalent coursework) in one of our content areas: English, Mathematics, Science (Biology, Chemistry, Physics, or comprehensive science), or Social Studies. The secondary program lasts thirteen months, and the elementary program lasts 1.5 years.

Advanced Licensure Program

Master Teacher Associates (MTA). This program provides an extension of the candidate's current teaching license. It is also thirteen months and it includes coursework and other requirements to foster the candidate's further development in content, pedagogy, and leadership. It is offered for either Elementary or Secondary levels.

Non-Licensure Program

The Master of Educational Studies (MES) Program is designed for students seeking the flexibility of developing knowledge, skills, and experiences across a diverse range of interests in the field of education. MES students take a range of advanced education courses to further their knowledge and understanding of educational topics and issues. The program requires 36 credit hours and lasts for 13 months.

Certificate Program

The Curriculum, Instruction, and Assessment Certificate is appropriate for those with elementary, secondary, or higher education interest.

Programs

- Education, MAED
- Education, MDiv/MAED
- Curriculum, Instruction, and Assessment, Certificate

Courses

EDU 601. Microcomputer and Audiovisual Literacy. (3 h)
Introduction to microcomputers for educators and other users, emphasizing familiarity with computers, use and evaluation of software, and elementary programming skills. Experience with audiovisual materials and techniques is included.

EDU 602. Production of Instructional Materials. (3 h)
Methods of producing instructional materials and other technological techniques. P-EDU 601and senior or graduate standing.

EDU 603. History of Western Education. (3 h)
Educational theory and practice from ancient times through the modern period, including American education.

EDU 604. Social Justice Issues in Education. (3 h)
This course facilitates exploration of issues of social justice and schooling from both theoretical and practical perspectives. It includes a focus on multicultural education, global awareness, issues of equity in school funding, urban and rural education, poverty, and marginalized populations.

EDU 605. The Sociology of Education. (3 h)
Study of contemporary educational institutions. Examines such issues as school desegregation, schooling and social mobility, gender equity, and multiculturalism.

EDU 606. Studies in the History and Philosophy of Education. (3 h)
Study of selected historical eras, influential thinkers, or crucial problems in education. Topics announced annually.

EDU 609L. Introduction to Secondary Education. (3 h)
This course includes practical experiences in classrooms with focus on secondary classrooms and students. It involves public school experience and seminar.

EDU 610. Race, Class, and Gender in a Color-blind Society. (3 h)
Examines issues surrounding race, class, and gender in the U.S. Topics include income and wealth, theories of discrimination, public education, gender bias, and patterns of occupational and industrial segregation.

EDU 612. Teaching Exceptional Children. (3 h)
This course examines the various types of learning differences in K-12 schools. Emphasis is on instructional planning, identification of interventions, and assessment techniques to support diverse learners.

EDU 613. Human Growth and Development. (3 h)
Theories of childhood and adolescent development, their relation to empirical research, and their educational implications. Consideration of the relation to learning of physical, intellectual, emotional, social, and moral development in childhood and adolescence.

EDU 614L. Elementary Teaching Rounds. (2 h)
Involves practical experiences in elementary classrooms with focus on pedagogy and content. Weekly public school experience and seminar. Pass/Fail.

EDU 616. Elementary Literacy Interventions. (3 h)
This course is a field experience for elementary education candidates focused on early literacy, including diagnosis and remediation of reading and writing skills. It includes public school experience and seminar.

EDU 621. Advanced Issues and Trends in Education. (3 h)
Special topics course related to advanced educational issues and trends with a focus on K-12 schools and teachers. Focus will vary by instructor. Course can be repeated if topic differs.

EDU 637. TESOL Linguistics. (3 h)
An introduction to the theoretical and practical linguistics resources and skills for teaching English to speakers of other languages (TESOL) within the US or abroad.

EDU 641. Teaching Elementary Literacy. (3 h)
Methods and materials for implementing research-based strategies for teaching and assessing reading, writing, listening and speaking in grades K-6.

EDU 642. Teaching Elementary Social Studies and Methodology and Management Lab. (3 h)
Methods and materials for teaching K-6 social studies, including adaptations for diverse and exceptional learners. Includes experiences in diverse elementary classrooms.

EDU 643. Teaching Elementary STEM (Science, Technology, Engineering, Mathematics). (3 h)
Methods and materials for teaching STEM subjects in elementary schools, emphasizing inquiry teaching and learning, and including adaptations for diverse and exceptional learners.

EDU 650L. Student Teaching: Elementary. (9 h)
Supervised teaching experience in grades K-6. Full-time. Service Learning. Pass/Fail only.

EDU 651. Adolescent Psychology. (4 h)
Introduction to theories of adolescent psychology as related to teaching and counseling in various settings. Readings emphasize researchers' suggestions for parenting, teaching, and counseling adolescents between the ages of 13 and 19.

EDU 654. Content Pedagogy. (3 h)
Methods, materials, and techniques used in teaching particular secondary subjects (English, mathematics, science, second languages, social studies).

EDU 654A. Content Pedagogy: Teaching Secondary English. (3 h)
Methods and materials used in teaching secondary English.

EDU 654B. Content Pedagogy: Teaching Secondary Mathematics. (3 h)
Methods and materials used in teaching secondary mathematics.

EDU 654C. Content Pedagogy: Teaching Secondary Social Studies. (3 h)
Methods and materials used in teaching secondary social studies.

EDU 654D. Content Pedagogy: Teaching Secondary Science. (3 h)
Methods and materials used in teaching secondary science.

EDU 654E. Content Pedagogy: Teaching World Languages. (3 h)
Methods and materials used in teaching world languages.

EDU 654L. Content Pedagogy Rounds. (2 h)
Practical experiences in classrooms with focus on pedagogy and content. Weekly public school experience and seminar. Pass/Fail only.

EDU 655. Professional Seminar: Elementary. (3 h)
Students reflect on all aspects of the elementary school curriculum, including meeting the needs of diverse learners, lesson planning, best practices, classroom management, and leadership. Required completion and submission of edTPA portfolio. Pass/Fail only.

EDU 657. Crisis in Higher Education. (3 h)
Explores the current crisis in higher education by providing historical context and considering emerging trends. Includes topics such as issues of student access, public and private institutional funding, the evolving landscape of modern employment, and public perceptions of higher education.

EDU 661. Foundations of Education. (3 h)
Philosophical, historical, and sociological foundations of education, including analysis of contemporary issues and problems.

EDU 664L. Student Teaching Internship. (9 h)
Supervised teaching internship in grades 9-12 (K-12 for foreign language). Full-time, 15-week field experience. Pass/Fail only.

EDU 665. Professional Development Seminars. (3 h)
Analysis and discussion of problems and issues in secondary school teaching. Examination of research and practice-based strategies. Required completion and submission of edTPA portfolio. Pass/Fail only.

EDU 668. Professional Experience in Education. (3 h)
This course offers students a placement in an educational setting under the supervision of a professional mentor. During this internship, students examine a critical topic in a local school, a community agency, a nonprofit organization, or other educational setting.

EDU 673. Comparative and International Education. (3 h)
A study of various historical, political, economic, and social issues shaping education in selected countries throughout the world. The course aims to expand student understanding of differing educational and pedagogical structures and comparatively investigate educational issues around the globe.

EDU 674. Student Teaching Seminar. (1.5 h)
Analysis and discussion of practical problems and issues in the teaching of particular secondary subjects (English, mathematics, science, second languages, social studies). Emphasis is on the application of contemporary instructional methods and materials. Includes prior (intercession) 20 hours field experience requirement.

EDU 677. Literacy in the 21st Century. (3 h)
This course examines the impact of emerging literacy trends on the 21st Century students in a digital global world. There is specific focus on engaging reluctant and struggling readers.

EDU 681. Special Needs Seminar. (1 h)
Analysis and discussion of practical problems and issues in the teaching of special needs students in the secondary classroom. Topics include classroom management, reading and writing in the content area, inclusion, and evaluation. Satisfactory/Unsatisfactory.

EDU 682. Reading and Writing in the Content Areas. (2 h)
Survey of methods for teaching reading and writing to help students learn in the various content areas, and of techniques for adapting instruction to the literacy levels of students.

EDU 683. Classroom Management Seminar. (1 h)
Examination of research and practice-based strategies for secondary school classroom management and discipline. Pass/Fail Only.

EDU 684. Creative Research Methodologies. (2 h)
Investigation of source materials, printed and manuscript, and research methods which are applied to creative classroom experiences and the preparation of research papers in literature and social studies.

EDU 685. Diversity Seminar. (1 h)
Exploration of multi-cultural issues and relevant Spanish language and cultural teaching practices essential for classroom communication. Pass/Fail Only.

EDU 687. Tutoring Basic Writing. (2 h)
Review of recent writing theory applicable to teaching basic writers (including the learning disabled and non-native speakers). Special attention to invention strategies and heuristic techniques. Includes experience with tutoring in the Writing Center.

EDU 688. Writing Pedagogy. (3 h)
This course blends theory and practice, providing students from all content areas with a foundational understanding of writing pedagogy methods and approaches. Topics of study will include writing across the curriculum, writing research and writing assessment.

EDU 690. Methods and Materials for Teaching Foreign Language. (3 h)
Survey of the basic materials, methods, and techniques of teaching foreign languages in the elementary and middle grades. Emphasis is on issues and problems involved in planning and implementing effective second language programs in grades K-6. Spring only.

EDU 693. Individual Study. (1-3 h)
A project in an area of study not otherwise available in the department; permitted upon departmental approval of petition presented by a qualified student. May be repeated for credit.

EDU 695. Teaching Diverse Learners. (3 h)
This course explores the multifaceted nature of diversity in today's classrooms, with particular attention to English learners, exceptional children, and students from culturally and linguistically diverse backgrounds.

EDU 698. Seminar in Secondary Education. (1 h)
Investigation of the issues that form the context for teaching in secondary schools.

EDU 705. Sociology of Education. (3 h)
Study of contemporary society and education, including goals and values, institutional culture, and the teaching/learning process.

EDU 707. Educational Policy and Practice. (3 h)
This course explores the philosophical, historical and sociological foundations of education, including analysis of contemporary accountability systems.

EDU 708. School and Society. (3 h)
Study of continuity and change in educational institutions, including analysis of teachers, students, curriculum, assessment and evaluation, and contemporary problems and reform movements.

EDU 711. Reading Theory and Practice. (3 h)
Study of current reading theory and considerations of its application in the teaching of reading, grades K-12.

EDU 712. Learning and Cognitive Science. (3 h)
This course explores key theories and principles of cognition related to development, learning, andmotivation, with a focus on the implications for designing and implementing effective learning experiences.

EDU 713. Classroom Climate: Classroom Management and Conflict Resolution. (3 h)
This course focuses on the development and maintenance of a safe, orderly, and respectful classroom environment in conjunction with advanced pedagogical strategies. Students learn classroom management and conflict resolution techniques while considering their own teaching practices.

EDU 714. Advanced Content Pedagogy. (3 h)
This course assists students in developing skills for content-specific teaching of critical thinking and problem solving while building upon existing pedagogical content knowledge through collaboration that is rooted in current practice, and addressing state and national standards.

EDU 715. Action Research. (3 h)
Individual planning for action research study on a specific pedogogical topic in a school setting. Includes definition of research problem, literature review, and proposal for collection of field data, and reporting of results.

EDU 716. Professional Growth Seminar. (3 h)
Students will provide reflections on their teaching experiences, report the results of their action research, and define their professional goals.

EDU 717. Instructional Design, Assessment and Technology. (3 h)
Introduction to contemporary technologies and their applications for supporting instruction, assessment, professional practice, and school leadership.

EDU 718. Advanced Multimedia Technology in Education. (3 h)
This course develops advanced technology skills and knowledge of how to incorporate technology tools into pedagogical practice through a variety of assignments including an implementation project.

EDU 721. Educational Research. (3 h)
Theory, construction, and procedures of empirical research on teaching and learning. Analysis and evaluation of research studies.

EDU 723. Educational Statistics. (3 h)
Descriptive, inferential, and nonparametric statistical procedures involved in educational research. Computer methods for statistical analysis.

EDU 725. Action Research II. (1 h)
Reporting of results of action research study on pedagogical topic. Includes oral and writen presentations.

EDU 730L. Service Learning: Tutoring. (1 h)
Practical experiences in classrooms with focus on tutoring and assisting with preparation for standardized testing. Includes field work and reflection. Pass/Fail only.

EDU 731. Foundations of Curriculum Development. (3 h)
Philosophical, psychological, and social influences on the school curriculum. Examination of both theoretical and practical curriculum patterns for the modern school. Processes of curriculum development, including the leadership function of administration and research.

EDU 733. Supervision of Instruction. (3 h)
Analysis of various techniques of supervision: orientation of teachers, in-service education, classroom observation, individual follow-up conferences, ways to evaluate instruction, and methods for initiating changes.

EDU 735. Assessment of Teaching and Learning. (3 h)
This course focuses on the assessment of learning from a theoretical and practical perspective. It includes an understanding of formative and summative assessments, traditional and non-traditional assessments, standardized testing, and the interpretation and applicaiton of test data.

EDU 745. Advanced Diverse Learners. (3 h)
This course explores advanced issues related to the multifaceted nature of diversity in today's classrooms, with particular attention to English learners, exceptional children, and students from culturally and linguistically diverse backgrounds.

EDU 747. Research and Trends in the Teaching of Foreign Languages. (3 h)
Study of current trends and issues in foreign language education. Research topics include language and linguisitics, culture, and technology.

EDU 751. Adolescent Psychology. (3 h)
Introduction to theories of adolescent psychology as related to teaching and counseling in various settings. Readings emphasize researchers' suggestions for parenting, teaching, and counseling adolescents between the ages of 13 and 19.

EDU 758. Studies in Educational Leadership. (3 h)
This course includes examination of contemporary leadership theory and its various applications in education. It includes field work and reflection. (Service Learning)

EDU 764. Seminar in Curriculum and Instruction. (3 h)
Exploration of special topics in the field of curriculum and instruction.

EDU 781. Methodology and Research. (3 h)
Advanced study of the methods and materials of a specific discipline (English, French, Spanish, social studies, mathematics, science) in the curriculum with special attention directed to the basic research in the discipline. Includes 20 hours field experience/project.

EDU 783. Readings and Research in Education. (1-3 h)
Independent study and research on topics relevant to the student's field of concentration which may include a special reading program in an area not covered by other courses or a special research project. Supervision by faculty members. Hours of credit to be determined prior to registration.

EDU 784. Research in Writing. (3 h)
Investigation of selected topics related to the writing process.

EDU 785. The Teaching of Writing. (3 h)
Examination of the theories and methods of instruction of writing.

EDU 787. Teaching Advanced Placement. (2-3 h)
An investigation of the content of and the pedagogy appropriate to advanced placement courses in the various disciplines. Summer only.

EDU 788. Teaching Foreign Languages in the Elementary Grades. (2 h)
Intensive period of observation and instruction in an elementary school setting with a foreign language specialist. Methods for development of listening, speaking, reading, writing, and cultural awareness using content-based instruction and thematic units.

Faculty

Program Director Debbie French
Chair Alan Brown
Professors Alan Brown, Adam Friedman, Leah P. McCoy, Linda N. Nielsen
Associate Professors Debbie French, Donal Mulcahy, Dani Parker Moore
Assistant Teaching Professor Eleni Caldwell

Education, MAED

Degree Requirements

Course Requirements

The Master Teacher Fellows program requires 42-48 semester hours. The Master Teacher Associates and Master of Educational Studies programs each require 36 semester hours. The Curriculum, Instruction, and Assessment Certificate requires 15 credit hours. The following are offered only as pass/fail:

Code	Title	Hours
EDU 650L	Student Teaching: Elementary	9
EDU 664L	Student Teaching Internship	9
EDU 665	Professional Development Seminars	3

All remaining coursework must be taken for a grade. All courses must be approved, and an overall grade-point-average of B must be maintained. The course requirements must be completed in courses numbered 600 or above, with at least 18 hours in courses numbered 700 or above.

Research Competence in Teacher Education

Research competence in Teacher Education includes a set of three courses that include both research studies and personal reflection.

Licensure Only Coursework

Students who wish to enroll in graduate courses to obtain or renew a license may seek admission through the Licensure Officer of the Department of Education. The GRE is not required.

A copy of the Title II Federal Report Card may be obtained in the Licensure Office of the department.

For additional degree requirements, see Requirements for Degrees.

English (ENG)

Master of Arts

Overview

This degree offers opportunities for study and research across the major areas of English studies, including literary and cultural studies, rhetoric and writing studies, creative writing, and the English language, with coursework spanning British, American, transnational, global Anglophone, Indigenous, and diasporic traditions.

Graduate seminars (numbered 700 and above) emphasize independent study and research, from which thesis projects may develop. With the approval of the graduate committee, students may also take one or two related courses in other departments, as well as 600-level courses in English (ENG), Creative Writing (CRW), and Writing (WRI).

Applicants are expected to hold a bachelor's degree from an accredited institution and to have substantial undergraduate preparation in English studies, broadly conceived, including literature, rhetoric and writing, creative writing, the English language, or related fields.

Programs

- English, MA
- Medieval and Early Modern Studies, Certificate

Courses

ENG 601. Individual Authors. (3 h)
Study of selected work from an important American or British author. May be repeated once for credit.

ENG 602. Ideas in Literature. (3 h)
Study of a significant literary theme in selected works. May be repeated when the course is taught by a different professor on a different topic.

ENG 604. History of the English Language. (3 h)
Survey of the development of English syntax, morphology, and phonology from Old English to the present, with attention to vocabulary growth.

ENG 605. Old English Language and Literature. (3 h)
Introduction to the Old English language and a study of the historical and cultural background of Old English literature, including Anglo-Saxon and Viking art, runes, and Scandinavian mythology. Readings from Beowulf and selected poems and prose.

ENG 608. Beowulf. (3 h)
This course offers an intensive study of the poem, with emphasis on language, translation skills and critical contexts.

ENG 609. Modern English Grammar. (3 h)
A linguistics approach to grammar study. Includes a critical exploration of issues such as grammatical change and variation, the origins and effects of grammar prescriptions/proscriptions, the place of grammar instruction in education, and the politics of language authority.

ENG 610. The Medieval World. (3 h)
Examines theological, philosophical and cultural assumptions of the Middle Ages through the reading of primary texts. Topics include Christian providential history, drama, devotional literature, the Franciscan controversy, domestic life and Arthurian romance.

ENG 611. The Legend of Arthur. (3 h)
The origin and development of the Arthurian legend in France and England with emphasis on the works of Chretien de Troyes and Sir Thomas Malory.

ENG 612. Medieval Poetry. (3 h)
The origin and development of poetic genres and lyric forms of medieval vernacular poetry.

ENG 613. The Roots of Song. (3 h)
Interdisciplinary investigation of poetry and song in the Middle Ages and early Renaissance. Study of the evolution of poetic and musical genres and styles, both sacred and secular. Students must complete a project or projects on the technical or theoretical aspects of early song.

ENG 615. Chaucer. (3 h)
Emphasis on The Canterbury Tales and Troilus and Criseyde, with some attention to minor poems. Consideration of literary, social, religious, and philosophical background.

ENG 620. British Drama to 1642. (3 h)
British drama from its beginnings to 1642, exclusive of Shakespeare. Representative cycle plays, moralities, Elizabethan and Jacobean tragedies, comedies, and tragicomedies.

ENG 623. Shakespeare. (3 h)
Thirteen representative plays illustrating Shakespeare's development as a poet and dramatist.

ENG 625. 16th-Century British Literature. (3 h)
Concentration on the poetry of Spenser, Sidney, Shakespeare, Wyatt, and Drayton, with particular attention to sonnets and The Faerie Queene.

ENG 626. Studies in English Renaissance Literature. (3 h)
Selected topics in Renaissance literature. Consideration of texts and their cultural background. May be repeated once for credit pending approval of instructor.

ENG 627. Milton. (3 h)
The poetry and selected prose of John Milton with emphasis on Paradise Lost.

ENG 628. 17th-Century British Literature. (3 h)
Poetry of Donne, Herbert, Vaughan, Marvel, Crashaw, prose of Bacon, Burton, Browne, Walton. Consideration of religious, political, and scientific backgrounds.

ENG 630. Restoration and 18th-Century British Literature. (3 h)
Representative poetry and prose, exclusive of the novel, drawn from Addison, Steele, Defoe, Swift, Pope, Johnson, and Boswell. Consideration of cultural backgrounds and significant literary trends.

ENG 633. Jane Austen. (3 h)
An intensive study of the works of the British novelist Jane Austen, and her cultural contexts.

ENG 635. Eighteenth-Century British Fiction. (3 h)
Primarily the fiction of Defoe, Richardson, Fielding, Smollett, Sterne, and Austen.

ENG 636. Restoration and Eighteenth-Century British Drama. (3 h)
British drama from 1660 to 1780, including representative plays by Dryden, Etherege, Wycherley, Congreve, Goldsmith, and Sheridan.

ENG 637. Studies in 18th-Century British Literature. (3 h)
Selected topics in 18th-century literature. Consideration of texts and their cultural background.

ENG 638. Studies in Gender and Literature. (3 h)
Thematic and/or theoretical approaches to the study of gender in literature.

ENG 639. Studies in Sexuality and Literature. (3 h)
Thematic and/or theoretical approaches to sexuality within literary studies.

ENG 640. Studies in Women and Literature. (3 h)
Women writers in society. May be repeated when the course is taught by a different professor on a different topic.

ENG 641. Literature and the Environment. (3 h)
This course studies the relationship between environmental experience and literary representation.

ENG 644. Studies in Poetry. (3 h)
Selected topics in poetry. May be repeated when the course is taught by a different professor on a different topic.

ENG 645. Studies in Fiction. (3 h)
Selected topics in fiction. May be repeated when the course is taught by a different professor on a different topic.

ENG 646. Studies in Theatre. (3 h)
Selected topics in drama. May be repeated when the course is taught by a different professor on a different topic.

ENG 647. Internship in the Major. (1.5 h)
Internship that involves both hands-on experience and academic study. Students will partner with a literature faculty member to integrate work in the community and engagement with his or her academic plan of study.

ENG 648. English Studies and the Professions. (1.5 h)
A practicum course focused on career design and career planning, specific to career options in humanities fields. The course will broaden awareness of career opportunities available to English graduate students. Pass-fail only. Cannot be repeated.

ENG 650. British Romantic Poets. (3 h)
A review of the beginnings of Romanticism in British literature, followed by a study of Wordsworth, Coleridge, Byron, Keats, and Shelley; collateral reading in the prose of the period.

ENG 651. Studies in Romanticism. (3 h)
Selected topics in European and/or American Romanticism with a focus on comparative, interdisciplinary, and theoretical approaches to literature.

ENG 653. Nineteenth-Century British Fiction. (3 h)
Representative major works by Dickens, Eliot, Thackeray, Hardy, the Brontes, and others.

ENG 654. Victorian Poetry. (3 h)
A study of the Brownings, Tennyson, Hopkins, and Arnold or another Victorian poet.

ENG 656. Literature of the Caribbean. (3 h)
Readings include significant works by authors from the Caribbean and authors writing about the Caribbean. Critical, historical, and cultural approaches are emphasized. All texts are in English.

ENG 657. Studies in Chicano/a Literature. (3 h)
Writings by Americans of Mexican descent in relation to politics and history. Readings in literature. literary criticism, and socio-cultural analysis.

ENG 658. Postcolonial Literature. (3 h)
A survey of representative examples of postcolonial literature from geographically diverse writers, emphasizing issues of politics, nationalism, gender, and class.

ENG 659. Studies in Postcolonial Literature. (3 h)
Examination of themes and issues in postcolonial literature, such as: globalization, postcolonialism and hybridity, feminism, nationalism, ethnic and religious conflict, the impact of the Cold War, and race and class.

ENG 660. Studies in Victorian Literature. (3 h)
Selected topics such as development of genres, major authors and texts, cultural influences. Reading in poetry, fiction, autobiography, and other prose.

ENG 661. Literature and Science. (3 h)
Literature of and about science. Topics vary and may include literature and medicine, the two-culture debate, poetry and science, nature in literature, the body in literature.

ENG 662. Irish Literature in the 20th-Century. (3 h)
Study of modern Irish literature from the writers of the Irish Literary Renaissance to contemporary writers. Course consists of overviews of the period as well as specific considerations of genre and of individual writers.

ENG 663. Studies in Modernism. (3 h)
Selected issues in Modernism. Interdisciplinary, comparative, and theoretical approaches to works and authors.

ENG 664. Studies in Literary Criticism. (3 h)
Consideration of certain figures and schools of thought significant in the history of literary criticism.

ENG 665. Twentieth-Century British Fiction. (3 h)
A study of Conrad, Ford, Forster, Joyce, Lawrence, Woolf and later British writers, with attention to their social and intellectual backgrounds.

ENG 666. James Joyce. (3 h)
The major works by Joyce, with an emphasis on Ulysses.

ENG 667. Twentieth-Century English Poetry. (3 h)
A study of 20th-century poets of the English language, exclusive of the U.S. Poets will be read in relation to the literary and social history of the period.

ENG 668. Studies in Irish Literature. (3 h)
The development of Irish literature from the eighteenth century through the early twentieth century in historical perspective, with attention to issues of linguistic and national identity.

ENG 669. Modern Drama. (3 h)
Main currents in modern drama from 19th-century realism and naturalism through symbolism and expressionism. After an introduction to European precursors, the course focuses on representative plays by Wilde, Shaw, Synge, Yeats, O'Neill, Eliot, Hellman, Wilder, Williams, Hansberry, and Miller.

ENG 670. American Literature to 1820. (3 h)
Origins and development of American literature and thought in representative writing of the Colonial, Revolutionary, and Federal periods.

ENG 671. American Ethnic Literature. (3 h)
Introduction to the field of American Ethnic literature, with special emphasis on post World War II formations of ethnic culture: Asian American, Native American, African American, Latino, and Jewish American. The course highlights issues, themes, and stylistic innovations particular to each ethnic group and examines currents in the still developing American culture.

ENG 672. American Romanticism. (3 h)
Studies of Romanticism in American literature. Focus varies by topic and genre, to include such writers as Emerson, Thoreau, Hawthorne, Melville, Whitman, and Dickinson.

ENG 673. Literature and Film. (3 h)
Selected topics in the relationship between literature and film, such as adaptations of literary works, the study of narrative, and the development of literary and cinematic genres.

ENG 674. American Fiction before 1865. (3 h)
Novels and short fiction by such writiers as Charles Brockden Brown, James Fenimore Cooper, Wahington Irving, Edgar Allan Poe, Nathaniel Hawthorne, Herman Melville, Harriet Beecher Stowe, and Rebecca Harding Davis.

ENG 675. American Drama. (3 h)
An historical overview of drama in America, covering such playwrights as Boucicault, O'Neill, Hellman, Wilder, Williams, Inge, Miller, Hansberry, Albee, Shepard, Norman, Mamet, and Wilson.

ENG 676. American Poetry before 1900. (3 h)
Readings and critical analysis of American poetry from its beginnings, including Bradstreet, Emerson, Longfellow, Melville, and Poe, with particular emphasis on Whitman and Dickinson.

ENG 677. American Jewish Literature. (3 h)
Survey of writings on Jewish topics or experiences by American Jewish writers. Explores cultural and generational conflicts, responses to social change, the impact of the Shoah (Holocaust) on American Jews, and the challenges of language and form posed by Jewish and non-Jewish artistic traditions.

ENG 678. Literature of the American South. (3 h)
Study of Southern literature from its beginnings to the present, with emphasis upon such major writers as Tate, Warren, Faulkner, O'Connor, Welty, and Styron.

ENG 679. Literary Forms of the American Personal Narrative. (3 h)
Reading and critical analysis of autobiographical texts in which the ideas, style, and point of view of the writer are examined to demonstrate how these works contribute to an understanding of pluralism in American culture. Representative authors include Douglass, Brent, Hurston, Wright, Kingston, Angelou, Wideman, Sarton, Hellman, and Dillard.

ENG 680. American Fiction from 1865 to 1915. (3 h)
Study of such writers as Twain, James, Howells, Crane, Dreiser, Wharton, and Cather.

ENG 681. Studies in African American Literature. (3 h)
Reading and critical analysis of selected fiction, poetry, drama, and other writings by American authors of African descent. May be repeated once for credit if topic varies.

ENG 682. Modern American Fiction, 1915 to 1965. (3 h)
Includes such writers as Cather, Lewis, Hemingway, Fitzgerald, Faulkner, Dos Passos, Wolfe, Baldwin, Ellison, Agee, O'Connor, Styron, Percy, and Pynchon.

ENG 685. Twentieth-Century American Poetry. (3 h)
Readings of modern American poetry in relation to the literary and social history of the period.

ENG 686. Directed Reading. (1-3 h)
A tutorial in an area of study not otherwise provided by the department; granted upon departmental approval of petition presented by a qualified student.

ENG 687. African-American Fiction. (3 h)
Selected topics in the development of fiction by American writers of African descent. May be repeated once for credit if topic varies.

ENG 689. African-American Poetry. (3 h)
Readings of works by American poets of African descent in theoretical, critical, and historical contexts.

ENG 690. The Structure of English. (3 h)
Introduction to the principles and techniques of modern linguistics applied to contemporary American English.

ENG 691. Studies in Postmodernism. (3 h)
Interdisciplinary, comparative, and theoretical approaches to works and authors.

ENG 693. Multicultural American Drama. (3 h)
Examines the dramatic works of playwrights from various racial and ethnic communities such as Asian American, African American, and Latino. Includes consideration of issues, themes, style and form.

ENG 694. Contemporary Drama. (3 h)
Considers experiments in form and substance in plays from Godot to the present. Readings cover such playwrights as Beckett, Osborne, Pinter, Stoppard, Churchill, Wertenbaker, Albee, Shepard, Mamet, Wilson, Soyinka, and Fugard.

ENG 695. Contemporary American Literature. (3 h)
Study of post-World War II American poetry and fiction by such writers as Bellow, Gass, Barth, Pynchon, Morrison, Ashbery, Ammons, Bishop, and Rich.

ENG 696. Contemporary British Fiction. (3 h)
Study of the British novel and short story, with particular focus on the multicultural aspects of British life, including works by Rushdie, Amis, Winterson, and Ishiguro.

ENG 700. Teaching Internship. (1.5 h)
An internship for the observation and practice of undergraduate pedagogy, placing an MA student into a core literature, writing, or creative writing course taught by a permanent faculty member, typically in the first semester of the student's second year. Arranged by permission or invitation of the supervising faculty member. Must be taken as an overload in addition to the coursework for the degree. May be repeated for credit for a maximum of 3 hours.

ENG 701. Individual Authors. (3 h)
Study of selected works from an important American, English, or Global Anglophone author.

ENG 702. Ideas in Literature. (3 h)
Study of a significant literary theme in selected works. May be repeated for credit if topic varies.

ENG 703. Introduction to Composition Studies. (3 h)
This graduate seminar offers an introduction to the field of Composition Studies (also known as Composition-Rhetoric). Students examine the field's historical perspectives, research traditions, guiding theories and constructs, classroom practices, and approaches to writing assessment.

ENG 704. Studies in Rhetorical Theory and Criticism. (3 h)
In this graduate seminar, students explore major issues and perspectives in rhetorical theory, including histories of rhetoric, elements of rhetorical criticism, and methods of rhetorical analysis. May be repeated once.

ENG 705. Special Topics in Writing Studies. (3 h)
In this graduate seminar, students examine significant writing theories and practices focused on one area of study within the international field of Writing Studies. May be repeated once.

ENG 707. Workshop in Prose. (3 h)
This graduate workshop is meant to improve and consolidate prose-writing skills and expand artistic ambitions, preparing students for further study (an MFA or PhD program) or a career in writing, editing, or teaching. May be repeated once.

ENG 708. Workshop in Poetry. (3 h)
This graduate workshop is meant to improve and consolidate poetry-writing skills and expand artistic ambitions, preparing students for further study (an MFA or PhD program) or a career in writing, editing, or teaching. May be repeated once.

ENG 709. Special Topics in Creative Writing. (3 h)
This graduate workshop is meant to develop students' creative writing skills in one or more genres in the context of a particular topic, as well as to expand artistic ambitions and prepare students for further study (an MFA or PhD program) or a career in writing, editing, or teaching. May be repeated once.

ENG 710. Early Medieval Narrative. (3 h)
A variety of forms of early medieval narrative (history, saga, chronicle, poetry, hagiography), with a focus on issues of genre and narrative form, connections between story and history, and the text's relation to the culture that produced it. Emphasis is on interdisciplinary viewpoints (artistic, archaeological, geographic), and on contemporary narrative theory.

ENG 711. Arthurian Legend. (3 h)
Emphasis is on the origin and developments of the Arthurian legend in England and France, with primary focus on Malory's Le Morte d'Arthur. Attention to social and intellectual backgrounds.

ENG 712. Studies in Medieval Literature: Romance and Identity. (3 h)
A diverse corpus of medieval poetry, both lyric and narrative, is explored in an effort to trace the origin and evolution of the idea and meaning of "romance," a term signifying, for the medieval audience, narrative poetry in the vernacular, and, for our purposes, that uniquely new concept of ennobling love that emerged in the 12th century.

ENG 715. Studies in Chaucer. (3 h)
Emphasis on selected Canterbury Tales, Troilus and Criseyde, and the longer minor works, with attention to social, critical, and intellectual background. Lectures, reports, discussions, and a critical paper.

ENG 720. Renaissance Drama. (3 h)
Using an historical approach, this seminar examines the relationship between the theater as an institution and centers of authority during the Tudor and Stuart periods. The plays—tragedies, comedies, tragicomedies—are approached as the products of a dynamic exchange between individual authors and the larger political and social concerns of the period.

ENG 721. Studies in Spenser. (3 h)
Emphasis on The Faerie Queene; attention to the minor works; intellectual and critical background. Lectures, discussions, and class papers.

ENG 722. Studies in 16th-Century British Literature. (3 h)
Introduction to critical and scholarly methodology for the study of the literature; particular emphasis on Spenser's Faerie Queene and Sidney's Arcadia.

ENG 723. Studies in Shakespeare. (3 h)
Representative text from all genres, examined in light of critical methodologies in the field of Shakespeare studies. Emphasis is on reading primary sources as well as on discussion of the impact that historical, cultural, and religious developments had on Shakespeare, the theater, and the thematics of his plays.

ENG 725. Studies in 17th-Century British Literature. (3 h)
Non-dramatic literature of the 17th century, exclusive of Milton. Emphasis on selected major writers. Lectures, discussions, and presentation of studies by members of the class.

ENG 727. Studies in Seventeenth-Century British Literature: Primarily Milton. (3 h)
The work of John Milton, primarily Paradise Lost, within its cultural environment. Some attention to connections between Milton's writings and that of his contemporaries.

ENG 729. Early Modern Literature. (3 h)
Introduction to Early Modern literature, spanning a variety of genres, periods, and regions and including historical contexts, critical methodologies, and secondary criticism in Early Modern studies.

ENG 733. 18th-Century British Fiction. (3 h)
A study of two major British novelists of the 18th century. Lectures, reports, critical papers. Authors for study chosen from the following: Defoe, Richardson, Fielding, Smollet, and Austen.

ENG 737. Studies in Restoration and Eighteenth Century British Literature. (3 h)
Selected topics in Restoration and 18th-century literature. Consideration of texts and their cultural background.

ENG 740. Studies in Gender and Literature. (3 h)
An examination of selected writers and/or theoretical questions focusing on issues of gender.

ENG 741. Studies in Sexuality and Literature. (3 h)
Thematic and/or theoretical approaches to sexuality within literary studies.

ENG 743. Nineteenth-Century British Fiction. (3 h)
Study of one or more major British novelists of the 19th century. Lectures, reports, discussions, and a critical paper. Authors for study chosen from the following: Austen, Dickens, Thackeray, Eliot, and Hardy.

ENG 745. British Poetry of the 19th and 20th Centuries. (3 h)
Study of several British poets chosen from the major Romantics, Tennyson, Browning, Hardy, and Yeats.

ENG 746. Studies in British Romanticism. (3 h)
Examination of major writers, topics, and/or theoretical issues from the late 18th and early 19th centuries.

ENG 757. American Poetry. (3 h)
Studies of the poetry and poetic theory of three major American writers in the 19th and 20th centuries. Writers chosen from the following: Whitman, Dickinson, Frost, Eliot, Stevens, or Williams. Discussions, reports, and a critical paper.

ENG 758. Studies in Modern Poetry. (3 h)
Theoretical issues and themes in 20th-century poetry.

ENG 759. Studies in Postcolonial Literature. (3 h)
Examination of themes and issues in postcolonial literature and/or theory, such as: globalization, identity and hybridity, feminism, nationalism ethnic and religious conflict, the impact of neo-imperialism and economic policy, and race and class.

ENG 760. Studies in Victorian Literature. (3 h)
Selected topics such as development of genres, major authors and texts, and cultural influences of Victorian Literature. Readings in poetry, fiction and autobiography, and other prose.

ENG 763. Studies in Modernism. (3 h)
ENG 763 Studies in Modernism This course will examine elected issues in Modernism, from interdisiplinary, comparative, and theoretical approaches.

ENG 765. Literary Criticism. (3 h)
Review of historically significant problems in literary criticism, followed by study of the principal schools of 20th-century critical thought. Lectures, reports, discussions, and a paper of criticism.

ENG 766. Studies in 20th-Century British Literature. (3 h)
Examination of major writers, topics, and/or theoretical issues in 20th-century British literature. In addition to fiction, the course focuses on drama, theory, prose readings, and poetry.

ENG 767. 20th-Century British Fiction. (3 h)
Study of one or more of the major British novelists of the 20th century. Authors chosen from among the following: Conrad, Ford, Forster, Joyce, Lawrence, or Woolf.

ENG 768. Irish Literature. (3 h)
Study of major themes, theories, individual authors, or periods, which might include discussions of mythology, folklore, landscape, poetics, narrative strategies, gender, and politics.

ENG 770. Studies in American Literature. (3 h)
Introduction to studies in American literatures, spanning a variety of genres, periods, and regions (U.S., Black Atlantic, Caribbean, Central American, South American, and hemispheric literatures), including historical contexts, critical methodologies, and secondary criticism in the field.

ENG 771. American Ethnic Literature. (3 h)
Examination of how ethnic writers narrate cultural histories and respond to and represent the ambiguity of cultural location. Literary topics include slavery, exile, the Holocaust, immigration, assimilation, and versions of the American Dream.

ENG 772. Studies in American Romanticism. (3 h)
Writers of the mid-19th century, including Emerson, Thoreau, Hawthorne, and Melville.

ENG 774. American Fiction Before 1865. (3 h)
A study of novels and short fiction by such writers as Charles Brockden Brown, James Fenimore Cooper, Washington Irving, Edgar Allan Poe, Nathaniel Hawthorne, Herman Melville, Harriet Beecher Stowe, and Rebecca Harding Davis.

ENG 776. American Poetry Before 1900. (3 h)
Close reading and critical analysis of selected American poets, such as Bryant, Longfellow, Poe, Emerson, Whitman, and Dickinson.

ENG 779. Autobiographical Voices: Race, Gender, Self-Portraiture. (3 h)
Using an historical and critical approach, this seminar examines autobiography as an activity which combines history, literary art, and self-revelation. Lectures, reports, discussions, a critical journal, a personal narrative, and a critical paper. Authors for study chosen from the following: Douglass, Brent, Hurston, Wright, Angelou, Crews, Dillard, Moody, Malcolm X, Kingston, Wideman, or Sarton.

ENG 780. Studies in American Fiction from 1865 to 1915. (3 h)
Study of the principal fiction of one or more major American writers of the late 19th and early 20th centuries. Lectures, seminar reports, and a research paper. Authors for study chosen from the following: Twain, James, Howells, Adams, Crane, Dreiser, Wharton, or Cather.

ENG 781. African-American Literature and the American Tradition. (3 h)
Critical readings of selected works of major American writers of African descent within the contexts of the African-American and American literary and social traditions. Covers such genres as autobiography, fiction, drama, and poetry. Lectures, reports, discussions, and a critical paper.

ENG 782. Studies in American Fiction from 1915 to 1965. (3 h)
Study of the principal fiction of one or more major American writers of the 20th century. Writers are chosen from the following: Cather, Lewis, Hemingway, Fitzgerald, Faulkner, Dos Passos, Wolfe, Baldwin, Ellison, Agee, O'Connor, Percy, or Pynchon.

ENG 783. Contemporary American Fiction. (3 h)
Seminar devoted to the close study of some of the most important novels produced in the United States since World War II.

ENG 784. Contemporary American Poetry. (3 h)
Seminar devoted to the close study of some of the most important poems written in America since World War II.

ENG 786. Directed Reading. (1-3 h)
A tutorial in an area of study not otherwise provided by the department; granted upon departmental approval of petition presented by a qualified student.

ENG 787. Introduction to Graduate Studies I. (1.5 h)
Introduces students to the expectations and resources of graduate study in English. Emphasis on scholarly habits, research orientations, and building a community of peers.

ENG 788. Introduction to Graduate Studies II. (1.5 h)
Introduces students to the scholarly practices, research tools, and professional expectations of graduate study in English. Emphasis on reading and writing at the graduate level, thesis planning, and professional development.

ENG 789. Linguistics in Literature. (3 h)
Examination of theories of grammar and attitudes toward the English language reflected in the literature of selected periods.

ENG 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

ENG 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

Faculty

Program Co-Directors Lucy Alford and Zak Lancaster
Chair Chris Brown
Associate Chair and Thomas H Prichard Professor of English Eric G. Wilson
Reynolds Professor of English Herman Rapaport
Winifred W. Palmer Professor of English Dean Franco
Professors Wanda Balzano, Jennifer Greiman, Susan Harlan, Jefferson M. Holdridge, Scott W. Klein, Joanna Ruocco, Gale Sigal
Associate Professors Lucy Alford, Jeffrey Bills-Solomon, Amy Catanzano, Omaar Hena, Sarah Hogan, Melissa S. Jenkins, Zak Lancaster, Judith Madera, Jessica A. Richard, Erica Still, Olga Valbuena-Hanson
Assistant Professors Amy Clark, Derek Lee, J. Moisés García-Rentería, Kevin MacDonnell, Kaitlin Moore, Alisa Russell
Teaching Professors Rian Bowie, Erin Branch, Jennifer Pyke, Randi Saloman, Ryan Shirey
Associate Teaching Professors Meredith Farmer

English, MA

Degree Requirements

All students are required to demonstrate fluency or near-fluency in English, as well as reading-level proficiency in one additional modern or classical language. This requirement may be met by earning a satisfactory grade in an advanced reading course in the student's chosen second language taken in residence at the University or by satisfactorily passing a translation examination administered by the English department.

The degree requires 30 credit hours: 24 hours of coursework with an average grade of B or above plus 6 hours of thesis research. At least 15 of the 24 hours must be in courses numbered 700 or above. The remaining 9 hours may be in either 600 or 700 level courses. The thesis must be original and not revised material from coursework. All work must be completed within six years of the date of initial enrollment in the graduate program.

For additional degree requirements, see Requirements for Degrees.

Health and Exercise Science (HES)

Master of Science

Overview

This program offers specialization in the area of health and exercise science and is designed for those who are interested in careers in research, preventive, and rehabilitative programs, and/or further graduate study.

Candidates for the health and exercise science program are not required to have a specific undergraduate major or minor. However, an undergraduate concentration in the sciences is preferred. Candidates for the program generally pursue research careers in exercise science (e.g. exercise physiology, biomechanics, behavioral medicine, or rehabilitation), and/or careers in clinical exercise physiology, rehabilitation, or health behavior promotion (e.g., cardiac rehabilitation, clinical oncology, and corporate fitness programs). The prerequisites for this program include course work in human anatomy, human physiology, physiology of exercise, psychology, and biomechanics. These courses should be completed before admission to the program. None of the prerequisites may apply toward the graduate degree.

The Department of Health and Exercise Science supports the Healthy Exercise and Lifestyle Programs (HELPS), a chronic disease prevention and management program for the local community. Graduate students complete internships at HELPS to gain practical experience as clinical exercise specialists. After completing the internship with HELPS during the first academic year, students will have the opportunity to be certified as an American College of Sports Medicine (ACSM) Clinical Exercise Physiologist.

The Department of Health and Exercise Science began offering graduate study in 1967. Departmental graduate committee: Katula (chair), Arroyo, Bennett-Jones, Brubaker, Fanning, Messier, Mihalko, Miller, and Rice.

Programs

Master of Science

- Health and Exercise Science, MS

Courses

HES 650. Human Physiology. (3 h)
A lecture course that presents the basic principles and concepts of the function of selected systems of the human body, with emphasis on the muscular, cardiovascular, pulmonary, and nervous systems.

HES 651. Nutrition in Health and Disease. (3 h)
A lecture/lab course that presents the principles of proper nutrition including an understanding of the basic foodstuffs and nutrients as well as the influence of genetics, eating behavior, and activity patterns on performance, energy balance, and weight control. Labs focus on intervention in obesity and coronary heart disease through diet analysis, methods of diet prescription, and behavior modification.

HES 652. Human Gross Anatomy. (4 h)
A lecture/lab course on the structure and function of the human body. Labs are devoted to the dissection and study of the human musculoskeletal, neuromuscular, and vascular systems.

HES 653. Physiology of Exercise. (3 h)
Lecture course that presents the concepts and applications of the physiological response of the human body to physical activity. The acute and chronic responses of the muscular and cardiorespiratory systems to exercise are examined. Other topics include exercise and coronary disease, strength and endurance training, somatotype and body composition, gender-related differences, and environmental influences. P-HES 650 or POI.

HES 660. Epidemiology. (3 h)
Introduction to basic determinants of the incidence of chronic disease in the population, and development of an understanding of individual, community, and environmental approaches to promoting healthful lifestyles in youth, adults, and elderly populations. Issues are analyzed by formal statistical modeling.

HES 670. Biomechanics of Human Movement. (3 h)
Study of the mechanical principles which influence human movement, sport technique, and equipment design.

HES 675. Advanced Exercise Physiology. (3 h)
Lecture course on the study of physiological and biochemical adaptations of the human body to exercise, with special emphasis on substrate metabolism, ventilation and respiration, oxygen transport, and muscle physiology.

HES 682. Independent Study. (1-3 h)
Literature reviews and/or laboratory research performed on an individual basis under the supervision of a faculty member.

HES 710. Clinical Internship. (3 h)
A semester experience in a community-based clinical health program. Work includes active participation with individuals and groups with clinical conditions, such as heart disease, pulmonary disease, osteoarthritis, cancer, and obesity. Focus is on multiple lifestyle intervention strategies, in conjunction with participation in physiologic monitoring of patients during therapeutic sessions.

HES 715. Experimental Design. (3 h)
Study of the various types of research relevant to health and exercise science. While attention is given to topics such as statistical treatment of data, the primary emphasis involves discussion concerning threats to internal and external validity for experimental and quasi-experimental designs. In conjunction with a sound methodological approach, practical experiences are provided in the preparation and presentation of thesis proposals.

HES 721. Data Analysis and Interpretation. (3 h)
The application of basic statistical techniques in the analysis and interpretation of data in scientific research. Topics include descriptive statistics, simple linear and multiple correlation/regression analysis, t-tests, analysis of variance and covariance, and non-parametric statistics.

HES 733. Health Psychology. (3 h)
Seminar on current topics in health psychology with a focus on wellness programs and rehabilitative medicine.

HES 761. Cardiopulmonary Disease Management. (3 h)
A lecture/lab class that examines the physiologial, pathologic, and pharmacologic considerations of managing patients with cardiovascular and pulmonary disease. Special emphasis on learning diagnostic procedures, interventions, and therapies, particularly models for cardiac and pulmonary rehabilitation.

HES 763. Advanced Biomechanics. (3 h)
An in-depth study of the mechanical principles that influence human movement. Topics include the study of kinetics, kinematics, cinematography, sport shoe design, and skeletal biomechanics. P-POI.

HES 765. Graded Exercise Testing and Exercise Prescription. (3 h)
The study of the rationale for the use of graded exercise testing in the evaluation of functional work capacity and prescription of exercise. Lectures include the analysis of different modes of evaluation: treadmill, bicycle ergometer, arm ergometer, and field testing, with the application of the results in the evaluation of normal and cardiac patients and prescription of exercise for special populations. Lab experiences include the use of electrocardiographs, ergometers, and metabolic analyzers in the assessment of functional capacity.

HES 780. Advanced Topics in Exercise and Sport Science. (3 h)
This course is divided into two or more content areas to allow an in-depth treatment of selected topics that are not a regular part of required coursework. Topics are chosen from the following areas: anatomy, biomechanics, computer analysis, multivariate statistics, and physiology of exercise. Seminar and/or lab approach.

HES 782. Independent Study in Health and Exercise Science. (1-3 h)
Literature and/or laboratory research performed on an individual basis under the supervision of a faculty member. May be repeated for credit.

HES 783. Seminar in Health and Exercise Science. (1 h)
Seminar class designed to bring graduate students and faculty together on a regular basis to discuss research proposals, research design and studies, results of research, and current topics in health and exercise science. Talks by invited or visiting speakers are included as seminar sessions. Graduate students receive reading and work assignments related to the material presented in the seminar. May be repeated for credit.

HES 784. Seminar in Health and Exercise Science. (1 h)
Seminar class designed to bring graduate students and faculty together on a regular basis to discuss research proposals, research design and studies, results of research, and current topics in health and exercise science. Talks by invited or visiting speakers are included as seminar sessions. Graduate students receive reading and work assignments related to the material presented in the seminar. May be repeated for credit.

HES 788. Advanced Clinical Internship. (3 h)
An advanced semester experience in a community-based clinical health program. Work includes training graduate and undergraduate interns, interacting with clinical faculty and other clinical staff, ensuring the safety of patients, ensuring the adherence to facility protocols, and active participation with individuals and groups with clinical conditions, such as heart disease, pulmonary disease, osteoarthritis, cancer, and obesity.

HES 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

HES 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

Faculty

Program Director Jeffrey A. Katula
Chair Peter H. Brubaker
Research Professor W. Jack Rejeski
Professors Peter H. Brubaker, Jeffrey A. Katula,
Anthony P. Marsh, Stephen P. Messier, Shannon L. Mihalko, Gary D. Miller
Associate Professor Kristen M. Beavers
Assistant Professors Elliot Arroyo, Jason Fanning, Megan Bennett Irby

Health and Exercise Science, MS

Degree Requirements

All students in the program are required to take the following courses:

Code	Title	Hours
HES 660	Epidemiology	3
HES 675	Advanced Exercise Physiology	3
HES 710	Clinical Internship	3
HES 715	Experimental Design	3
HES 721	Data Analysis and Interpretation	3
HES 733	Health Psychology	3
HES 761	Cardiopulmonary Disease Management	3
HES 763	Advanced Biomechanics	3
HES 765	Graded Exercise Testing and Exercise Prescription	3
HES 783	Seminar in Health and Exercise Science	1
HES 784	Seminar in Health and Exercise Science	1
HES 791	Thesis Research I	1-9
HES 792	Thesis Research II	1-9
Total Hours		**31-47**

Students can typically expect to spend two years in this program. The first year is devoted to required coursework and the identification of a thesis topic. The research and data collection for the thesis are usually completed in the second year. The second year also allows an opportunity for elective coursework outside the department.

For additional degree requirements, see Requirements for Degrees.

Liberal Arts Studies (LBS)

Master of Arts

Overview

The program offers a master's degree in interdisciplinary exploration of human questions, experiences, and challenges, drawing on diverse fields across the humanities, social sciences, and natural sciences, as well as law, medicine, business, and divinity. Faculty from varied academic disciplines offer interdisciplinary seminars with a focus on integrating knowledge, thinking critically, and strengthening practices of analysis and communication. Students are encouraged to shape their studies around their particular interests and may enroll in directed studies as well as any master's level course in the university with permission of the instructor.

Adult learners in any stage of life, from recent college graduation to preparation for post-career activities, are welcome to apply. No specific type of undergraduate degree or major is required. All applicants must show the ability to study in a graduate-level program, as indicated by a minimum of a B average in undergraduate studies. Further, the applicant's writing sample included with the application should demonstrate capacities for reading comprehension, analysis of a topic, and clear writing.

Programs

Master of Arts

- Liberal Arts Studies, MA

Courses

LBS 720-LBS 729 are topics courses that vary by semester. Topic categories are listed below.

LBS 720. Special Topics: Language and Literature. (3 h)
Special Topics in Liberal Studies related to Language and Literature. Course emphasis will vary with instructor. May be repeated for credit if topic differs.

LBS 721. Special Topics: Media, Arts, and Rhetoric. (3 h)
Special Topics in Liberal Studies related to studies in media, art, and rhetoric. Course emphasis will vary with instructor. May be repeated fro credit if topic differs.

LBS 722. Special Topics: Politics and International Relations. (3 h)
Special topics in Liberal Studies related to politics and international relations. Course emphasis will vary with instructor. Course may be repeated for credit if the topic differs.

LBS 723. Special Topics: History, Societies, and Culture. (3 h)
Special topics in Liberal Studies related to studies in history, societies, and various cultures. Emphasis will vary with instructor. Course may be repeated for credit if the topic differs.

LBS 724. Special Topics: Philosophy and Religion. (3 h)
Special Topics in Liberal Studies related to studies in philosophy and religion. Emphasis will vary with instructor. Course may be repeated for credit if the topic differs.

LBS 725. Special Topics: Popular Culture. (3 h)
Special Topics in Liberal Studies related to studies in popular culture. Course emphasis will vary with instructor. Course may be repeated for credit if topic differs.

LBS 726. Special Topics: Urban Arts and Architectural Design. (3 h)
Special Topics in Liberal Studies related to urban arts and architecural design studies. Course empahsis will vary with instructor. Course may be repeated for credit if topic differs.

LBS 727. Special Topics: Science, Health, and Culture. (3 h)
Special Topics in Liberal Studies related to the sciences, health and culture. Course emphasis will vary with instructor. Course may be repeated for credit if the topic differs.

LBS 728. Special Topics: Fine Arts, Aesthetics, and Creativity. (3 h)
Special Topics in Liberal Studies related to the study of Fine Art and the areas of asethetics and creativity. Course emphasis will vary with instructor. Course may be repeated for credit if topic differs.

LBS 729. Special Topics: Psychology, Humanism, and Business. (3 h)
Special Topics in Liberal Studies related to the areas of psychology, humanism, and business. Course emphasis will vary with instructor. Course may be repeated for credit if topic differs.

LBS 786. Directed Study. (1-3 h)
Working with a faculty advisor, the student completes a special reading project in area not covered in regular courses or a special research project not related to the master's thesis. A student who wishes to enroll must submit the Directed Study Form, signed by the advisor, to the program director. May be repeated once for credit with the permission of the program director Staff.

LBS 790. Capstone Project. (3 h)
Capstone project options includes: 1) research paper describing and explaining tentative hypotheses based on quantitative and/or qualitative research; 2) creative work with accompanying interpretive text; 3) internship with non-profit or for-profit organization with on site supervision; 4) portfolio of M.A. work, including a retrospective paper on major learnings from student's course of study as well as two academic papers from M.A. courses taken.

LBS 791. Thesis Research. (3 h)

LBS 792. Thesis Research II. (3 h)

Liberal Arts Studies, MA

Degree Requirements

The degree requires a minimum of 30 credit hours. At least 15 hours must be taken in LBS courses designed for this program. Up to 6 hours may be taken in Directed Study courses, which do not count toward the 15-hour LBS minimum. A maximum of 12 hours may be taken in 600 and 700 level departmental courses for graduate credit. A student may transfer a maximum of 6 semester hours from another liberal arts studies program or other appropriate graduate program at the discretion of the director.

Students complete the program by choosing from the following:

Capstone Project

Students may choose one of four types of capstone projects, for which 3 credit hours are required: a research project, a creative work, an internship, or a coursework portfolio. A capstone project form must be signed by the faculty member advising the project and submitted to the program director for approval.

Thesis

A thesis is written under the supervision of the student's advisory committee (an advisor, and two other readers). The degree with a thesis requires thirty semester hours, including six hours of thesis research and a successfully completed thesis.

For additional degree requirements, see Requirements for Degrees.

Mathematics (MTH)

Mathematics (MTH) Master of Science

Overview

The program is designed to accommodate students seeking either a terminal master's degree or preparation for PhD work.

Candidates for admission to the Master of Science Program in the Department of Mathematics should have completed at least thirty-three semester hours of mathematics and statistics at an accredited college or university. At least fifteen of these hours should require as a prerequisite two semesters of calculus or a semester of linear algebra. Most successful applicants have taken three semesters of calculus (through multivariable calculus), linear algebra, abstract algebra (or modern algebra), and advanced calculus (or other advanced courses in analysis).

Students in the program have access to state-of-the-art equipment and facilities, including the DEAC Linux cluster (is.wfu.edu/services/high-performance-computing (https://is.wfu.edu/services/high-performance-computing/)).

Programs

- Mathematics, MS
- Data Science, Certificate
- Structural and Computational Biophysics (SCB), Certificate

Courses

MTH 605. Introduction to Linear Algebra and Differential Equations. (3 h)
Specific topics covered include: vector algebra, solving linear systems of equations, rank, vector spaces, determinants, eigenvalues, linear transformations, first order differential equations, second order linear ordinary differential equations, and power series solutions to differential equations. May not be used toward any graduate degree offered by the department.

MTH 611. Introductory Real Analysis I. (3 h)
Limits and continuity in metric spaces, sequences and series, differentiation and Riemann-Stieltjes integration, uniform convergence, power series and Fourier series, differentiation of vector functions, implicit and inverse function theorems.

MTH 617. Complex Analysis I. (3 h)
Analytic functions, Caughy's theorem and its consequences, power series, and residue calculus.

MTH 624. Advanced Linear Algebra. (3 h)
A thorough treatment of vector spaces and linear transformations over an arbitrary field, canonical forms. inner product spaces, and linear groups.

MTH 626. Numerical Linear Algebra. (3 h)
An introduction to numerical methods for solving matrix and related problems in science and engineering using a high-level matrix-oriented language such as MATLAB. Topics include systems of linear equations, least squares methods, and eigenvalue computations. Special emphasis is given to applications.

MTH 631. Geometry. (3 h)
An introduction to axiomatic geometry including a comparison of Euclidean and non-Euclidean geometries.

MTH 634. Differential Geometry. (3 h)
Introduction to the theory of curves and surfaces in two and three dimensional space including such topics as curvature, geodesics, and minimal surfaces.

MTH 645. Elementary Number Theory. (3 h)
Course topics include properties of integers, congruences, and prime numbers, with additional topics chosen from arithmetic functions, primitive roots, quadratic residues, Pythagorean triples, and sums of squares.

MTH 646. Modern Number Theory. (3 h)
Course topics include a selection of number-theory topics of recent interest. Some examples include elliptic curves, partitions, modular forms, the Riemann zeta function, and algebraic number theory.

MTH 647. Graph Theory. (3 h)
Paths, circuits, trees, planar graphs, spanning trees, graph coloring, perfect graphs, Ramsey theory, directed graphs, enumeration of graphs and graph theoretic algorithms.

MTH 648. Combinatorial Analysis I. (3 h)
Enumeration techniques, generating functions, recurrence formulas, the principle of inclusion and exclusion, Polya theory, graph theory, combinatorial algorithms, partially ordered sets, designs, Ramsey theory, symmetric functions, and Schur functions.

MTH 649. Combinatorial Analysis II. (3 h)
Enumeration techniques, generating functions, recurrence formulas, the principle of inclusion and exclusion, Polya theory, graph theory, combinatorial algorithms, partially ordered sets, designs, Ramsey theory, symmetric functions, and Schur functions.

MTH 651. Introduction to Mathematical Modeling. (3 h)
Introduction to the mathematical modeling, analysis and simulation of continuous processes using MATLAB, Mathematica or Maple. Topics include dimensional analysis, stability analysis, bifurcation theory, one-dimensional flows, phase plane analysis, index theory, limit cycles, chaotic dynamics, hyperbolic conservation laws and traveling waves.

MTH 652. Partial Differential Equations. (3 h)
A detailed study of partial differential equations, including the heat, wave, and Laplace equations, using methods such as separation of variables, characteristics, Green's functions, and the maximum principle.

MTH 654. Discrete Dynamical Systems. (3 h)
Introduction to the theory of discrete dynamical systems as applied to disciplines such as biology and economics. Includes methods for finding explicit solutions, equilibrium and stability analysis, phase plane analysis, analysis of Markov chains and bifurcation theory.

MTH 655. Introduction to Numerical Methods. (3 h)
An introduction to numerical computations on modern computer architectures; floating point arithmetic and round-off error including programming in a scientific/engineering language such as MATLAB, Cor Fortran. Topics include algorithms and computer techniques for the solution of problems such as roots of functions, approximations, integration, systems of linear equations and least squares methods. Also listed as CSC 655.

MTH 657. Probability. (3 h)
Distributions of discrete and continuous random variables, sampling distributions. Covers much of the material on the syllabus for the first actuarial exam. This course is cross-listed as STA 610.

MTH 658. Mathematical Statistics. (3 h)
This course will cover derivation of point estimators, hypothesis testing, and confidence intervals using both maximum likelihood and Bayesian approaches. P-MTH 657 or POI.

MTH 681. Individual Study. (1-2 h)
A course of independent study directed by a faculty advisor. By prearrangement. May be repeated for credit.

MTH 682. Reading in Mathematics. (1-3 h)
Reading in mathematical topics to provide a foundational basis for more advanced study in a particular area. May not be used to satisfy any requirement in the MS degree with thesis. No more than three hours may be applied to the requirements for the MS degree without thesis. May be repeated for credit for a total of 3 hours.

MTH 683. Advanced Topics in Mathematics. (1-3 h)
Topics in mathematics that are not considered in regular courses. Content varies.

MTH 691. Research Exploration in Mathematics. (1-3 h)
Students will participate in introductory research projects while developing skills for success. May not be used towards any degree offered by the department. Pass/Fail only. POI only.

MTH 711. Real Analysis. (3 h)
An introduction to analysis on metric spaces and to calculus on Banach spaces with applications.

MTH 712. Real Analysis. (3 h)
Measure and integration theory, elementary functional analysis, selected advanced topics in analysis.

MTH 715. Seminar in Analysis. (1 h)

MTH 716. Seminar in Analysis. (1 h)

MTH 717. Optimization in Banach Spaces. (3 h)
Banach and Hilbert spaces, best approximations, linear operators and adjoints, Frechet derivatives and nonlinear optimization, fixed points and iterative methods. Applications to control theory, mathematical programming, and numerical analysis.

MTH 718. Topics in Analysis. (3 h)
Selected topics from functional analysis or analytic function theory.

MTH 721. Abstract Algebra. (3 h)
Groups, rings, fields, extensions, Euclidean domains, polynomials, vector spaces, Galois theory.

MTH 722. Abstract Algebra. (3 h)
Groups, rings, fields, extensions, Euclidean domains, polynomials, vector spaces, Galois theory.

MTH 724. Seminar on Theory of Matrices. (1 h)

MTH 725. Seminar in Algebra. (1 h)

MTH 726. Seminar in Algebra. (1 h)

MTH 728. Topics in Algebra. (3 h)
Topics vary and may include algebraic coding theory, algebraic number theory, matrix theory, representation theory, non-commutative ring theory.

MTH 731. Topology. (3 h)
Point-set topology including topological spaces, continuity, connectedness, compactness, and metric spaces. Additional topics in topology may include classification of surface, algebraic topology, and knot theory.

MTH 732. Topics in Topology and Geometry. (3 h)
Topics vary and may include knot theory, algebraic topology, differential topology, manifolds, and Riemannian geometry. May be repeated for credit. P - 731 or POI.

MTH 733. Topics in Topology and Geometry. (3 h)
Topics vary and may include knot theory, non-Euclidean geometry, combinatorial topology, differential topology, minimal surfaces and algebraic topology.

MTH 735. Seminar on Topology. (1 h)

MTH 736. Seminar on Topology. (1 h)

MTH 737. Seminar on Geometry. (1 h)

MTH 738. Seminar on Geometry. (1 h)

MTH 744. Topics in Number Theory. (3 h)
Topics vary and are chosen from the areas of analytic, algebraic, and elementary number theory. Topics may include Farey fractions, the theory of paritions, Waring's problem, prime number theorem, and Dirichlet's problem.

MTH 745. Seminar on Number Theory. (1 h)

MTH 746. Seminar on Number Theory. (1 h)

MTH 747. Topics in Discrete Mathematics. (3 h)
Topics vary and may include enumerative combinatorics, graph theory, algebraic combinatorics, combinatorial optimization, coding theory, experimental designs, Ramsey theory, Polya theory, representational theory, set theory and mathematical logic.

MTH 748. Seminar on Combinatorial Analysis. (1 h)

MTH 749. Seminar on Combinatorial Analysis. (1 h)

MTH 750. Dynamical Systems. (3 h)
Introduction to modern theory of dynamical systems. Linear and nonlinear autonomous differential equations, invariant sets, closed orbits, Poincare maps, structural stability, center manifolds, normal forms, local bifurcations of equilibria, linear and non-linear maps, hyperbolic sets, attractors, symbolic representation, fractal dimensions. P-MTH 611.

MTH 752. Topics in Applied Mathematics. (3 h)
Topics vary and may include computational methods in differential equations, optimization methods, approximation techniques, eigenvalue problems. May be repeated for credit.

MTH 753. Nonlinear Optimization. (3 h)
The problem of finding global minimums of functions is addressed in the context of problems in which many local minima exist. Numerical techniques are emphasized, including gradient descent and quasi-Newton methods. Current literature is examined and a comparison made of various techniques for both unconstrained and constrained optimization problems. Also listed as CSC 753.

MTH 754. Numerical Methods for Partial Differential Equations. (3 h)
Numerical techniques for solving partial differential equations (including elliptic, parabolic, and hyperbolic) are studied along with applications to science and engineering. Theoretical foundations are described and emphasis is placed on algorithm design and implementation using either C, FORTRAN, or MATLAB. Credit not allowed for both MTH 754 and CSC 754. P-MTH 655 or CSC 655.

MTH 757. Stochastic Processes and Applications. (3 h)
This course includes the axiomatic foundations of probability theory and an introduction to stochastic processes. Applications may include Markov chains, Markov Chain Monte Carlo with Metropolis-Hastings, Gibb sampling, Brownian motion, and related topics, with an emphasis on modern developments. This course is cross-listed as STA 710. P-MTH 657 or STA 610 and MTH 611 or POI.

MTH 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

MTH 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

Faculty

Program Director and Professor Jeremy Rouse
Chair and Professor W. Frank Moore
Sterge Faculty Fellow and Professor Ellen Kirkman
Taylor Professor and Chair Stephen Robinson
Professors Edward Allen, Jennifer Erway Fey, Hugh Howards, Miaohua Jiang, Sarah Mason
Associate Professors Abbey Bourdon, John Gemmer, R. Jason Parsley
Associate Teaching Professor and Director of the Math and Stats Center Lynne Yengulalp
Associate Teaching Professor Justin Allman
Assistant Professors Sebastian Bozlee, Claudia Falcon, Leandro Lichtenfelz, Fan Yang, Wenjun Zhao
Teacher-Scholar Postdoctoral Fellows Kyle Celano, Joseph Macula, Shohreh Gholizadeh Siahmazgi, Justin Valletta, Dominic Veconi
Visiting Assistant Professors John Lee, Meghan Peltier

Mathematics, MS

Degree Requirements

The requirements for the MS degree are met by selecting either the thesis option or the non-thesis option. Both options require an advanced course in each of analysis, algebra and topology; normally this requirement is met with the courses MTH 711, MTH 721, and MTH 731.

Thesis Option

If a thesis is written, 30 semester hours of coursework, including MTH 791 and MTH 792 and at least four additional 3-hour courses numbered above 700 are required for the MS degree.

MTH 711 or other	Advanced course in analysis	3
MTH 721 or other	Advanced course in algebra	3
MTH 731 or other	Advanced course in topology	3
Other 700-level	One course	3
600 or 700-level	Four electives	12
MTH 791	Thesis research I	3
MTH 792	Thesis Research II	3
Total Hours		30

Non-Thesis Option

If a thesis is not written, 36 semester hours of coursework, including at least five 3-hour courses numbered above 700, are required for the

MS degree. MTH 791 and MTH 792 cannot be counted as part of this coursework.

MTH 711 or other	Advanced course in analysis	3
MTH 721 or other	Advanced course in algebra	3
MTH 731 or other	Advanced course in topology	3
Other 700-level	Two courses	6
600 or 700-level	Seven electives	21
Total Hours		36

With the approval of the graduate committee, graduate courses may be taken in related areas to fulfill requirements; however no more than 9 such hours may count toward the requirements for either the thesis or non-thesis option.

For additional degree requirements, see Requirements for Degrees.

Physics (PHY)

Master of Science
Doctor of Philosophy

Overview

Opportunities for study are those usually associated with large research universities, while the atmosphere of a small liberal arts university with an ideal faculty/student ratio is maintained.

For admission to the program, students should have knowledge of senior level undergraduate mechanics, electricity and magnetism, thermodynamics, and quantum physics. The course of study for each first-year student is planned in conference with the graduate advisor after an evaluation of academic background and experience. Deficiencies may be removed during the first year of study by taking remedial courses.

The research interests of the graduate faculty are in experimental and computational biophysics, nanotechnology, optics, experimental and theoretical condensed matter physics, quantum computing, quantum materials and quantum optics, and gravitation. All research laboratories are well-equipped with state-of-the-art instrumentation, such as subpicosecond pulsed lasers; EPR; time-resolved, UV-vis spectrophotometers; optical tweezers; atomic force microscopes; single molecule manipulators; high-sensitivity optical and confocal microscopes; numerous, standard biochemical research apparatuses; and others. The Nano and Quantum Technologies Laboratory (https://www.wake-nanotech.org/) also houses state-of-the-art electron microscopes, sample analysis and preparation instruments and a clean room, is part of the physics department. Computational and theoretical research is supported by the DEAC Linux Cluster (deac.wfu.edu (https://is.wfu.edu/services/high-performance-computing/)) with several thousand computational processing cores.

For more details on the PhD program, visit *www.wfu.edu/physics* or write to the program director.

Programs

- Physics, MS
- Physics, PhD
- MD/PhD
- PhD/MBA
- Structural and Computational Biophysics (SCB), Certificate

Courses

PHY 601. Physics Seminar. (0.5 h)
Discussion of contemporary research, usually with visiting scientists. S/U only.

PHY 603. Physics Internship. (0 h)
Mentored internship in Physics. Permission of research mentor and program director required.

PHY 607. Biophysics. (3 h)
Introduction to the structure, dynamic behavior, and function of DNA and proteins, and a survey of membrane biophysics. The physical principles of structure determination by X-ray, NMR, and optical methods are emphasized.

PHY 610. Extragalactic Astronomy and Cosmology. (3 h)
Topics covered include galactic structure, models for galaxies and galaxy formation, the large-scale structure of the universe, the Big Bang model of the universe, physical processes such as nucleosynthesis in the early universe, and observational cosmology.

PHY 620. Physics of Macromolecules. (3 h)
The physics of large biologically important molecules, especially proteins and nucleic acids. Topics covered include the physical basis of biomolecular structure, the energetics and statistical mechanics of biomolecular dynamics, and the electrostatics and solvation of biomolecules. Designed for students with biochemistry, chemistry, or physics backgrounds.

PHY 623. Computational Biophysics Laboratory. (1 h)
Application of techniques in molecular modeling, including energy minimization, molecular dynamics simulation, and conformational analysis. C-PHY 620 or POI.

PHY 625. Biophysical Methods Lab. (1.5 h)
Experiments using various biophysical techniques such as electron paramagnetic resonance, atomic force microscopy, stopped-flow absorption spectroscopy, X-ray diffraction, and gel electrophoresis. C-PHY 607.

PHY 635. Computational Physics. (3 h)
An introduction to finding numerical solutions to scientific problems. Topics include understanding computational errors, differentiation, integration interpolation, root finding, random numbers, linear systems, Fourier methods, and the solution of ODEs and PDEs. There is no computer programming prerequisite. Credit will not be given for both PHY 635 and CSC 655/MTH 655.

PHY 637. Analytical Mechanics. (1.5 h)
The Lagrangian and Hamiltonian formulations of mechanics with applications. Taught in the first half of the fall semester.

PHY 639. Electricity and Magnetism. (1.5 h)
Electrostatics, magnetostatics, dielectric and magnetic materials, Maxwell's equations and applications to radiation, relativistic formulation. The first half course is taught in the second half of the fall semester, following PHY 637. The other course is taught in the spring semester. These should be taken in sequence.

PHY 640. Electricity and Magnetism. (3 h)
Electrostatics, magnetostatics, dielectric and magnetic materials, Maxwell's equations and applications to radiation, relativistic formulation. PHY 640 is taught in the spring semester after PHY 639. These should be taken in sequence. P-PHY 639.

PHY 641. Thermodynamics and Statistical Mechanics. (3 h)
Introduction to classical and statistical thermodynamics and distribution functions.

PHY 643. Quantum Physics. (3 h)
Basic quantum theory and applications including the time-independent Schrodinger equation, formalism and Dirac notation, the hydrogen atom, spin, identical particles, and approximation models.

PHY 644. Quantum Physics. (3 h)
Basic quantum theory and applications including the time-independent Schrodinger equation, formalism and Dirac notation, the hydrogen atom, spin, identical particles, and approximation methods.

PHY 645. Introduction to Quantum Computing. (3 h)
Introduction to the physics of quantum information sciences and quantum computing.

PHY 652. Physical Optics and Optical Design. (4 h)
Interaction of light with materials; diffraction and coherent optics; ray trace methods of optical design. C-PHY 652L.

PHY 652L. Physical Optics Lab. (0 h)

PHY 654. Introduction to Solid State Physics. (3 h)
Survey of the structure, composition, physical properties, and technological applications of condensed matter.

PHY 655. Quantum Materials. (3 h)
This course explores materials systems that express exotic properties derived from some aspect of dimensionality or topology. Thermal, electrical, optical and magnetic properties of these quantum materials will be addressed with emphasis on applications in quantum information sciences. From superconducting SSH polymers, to topological insulators, simple models are used throughout the course to develop insight into the physics of low-dimensional structures.

PHY 656. Electronic Imaging Sciences. (1.5 h)
This course introduces the theory and application of the electron imaging systems: transmission electron microscopy (TEM) and scanning electron microscopy (SEM). It focuses on basic materials science though some biological materials will be covered. It is taught as a series of lectures followed by laboratories.

PHY 657. Scanning Probes. (1.5 h)
This course examines the theory and application of scanning tunneling microscopy and atomic force microscopy (STM/AFM). It introduces how each type of imaging works, how to model spectroscopic data, and how to use each microscope. Students will image using the STM and AFM as well as take and reduce spectroscopy data using models built in Maple or Mathematica.

PHY 658. Kinetics of Materials. (1.5 h)
This course offers a study of driving forces for atomic and ionic motion within solids leading to a range of materials properties from work hardening to phase transformations and formation. Atomic-level models for diffusion will be introduced as well as techniques and examples of the solution to the diffusion equation. It complements the traditional thermodynamics course.

PHY 661. Biophysics Seminar. (1 h)
Seminal and current publications in biophysics are studied. Each week a member of the class makes an oral presentation on a chosen publication and leads the ensuing discussion. Students may also be required to make a second oral presentation relevant to their own research. Does not fulfill course requirements for Master's or PhD degrees. May be repeated for credit. S/U only.

PHY 663. Condensed Matter Seminar. (1 h)
Seminal and current publications in condensed matter physics are studied. Each week a member of the class makes an oral presentation on a chosen publication and leads the ensuing discussion. Does not fulfill course requirements for Master's or PhD degrees. May be repeated for credit. S/U only.

PHY 685. Bioinformatics. (3 h)
Introduction to computational approaches essential to modern biological inquiry. Approaches may include large biological dataset analyses, sequence similarity and motif searches, and analysis of high-throughput genomic technologies. Emphasizes interdisciplinary interaction and communication. Also listed as CSC 685 and BIO 685.

PHY 691. Special Topics in Physics. (1-4 h)
Courses in selected topics in physics. May be repeated if course contenct differs.

PHY 692. Special Topics in Physics. (1-4 h)
Courses in selected topics in physics. May be repeated if course content differs.

PHY 711. Classical Mechanics and Mathematical Methods. (3 h)
A study of variational principles and Lagrange's equations, the rigid body equations of motion, the Hamilton equations of motion and canonical transformations, Hamilton-Jacobi theory, and applications to continuous systems and fields.

PHY 712. Electromagnetism. (3 h)
A study of electric and magnetic fields in vacuum and within media and their sources. Analytical and numerical methods for solving Maxwell's equations are also an important part of the course.

PHY 715. Nonlinear Optics and Quantum Electronics. (3 h)
Nonlinear phenomena in laser spectroscopy, the quantum nature of optical processes in matter, and topics in laser physics. Lab-three hours.

PHY 731. Elementary Particle Physics. (3 h)
Fundamentals of contemporary elementary particle physics.

PHY 741. Quantum Mechanics. (3 h)
Study of the foundations of quantum theory, Hilbert space, operators, Schrodinger's equation and its solutions, symmetries, spin, multiple particles, approximation methods, scattering, the Dirac equation, and quantization of the electromagnetic field and its interaction with atoms.

PHY 742. Quantum Mechanics. (3 h)
Study of the foundations of quantum theory, Hilbert space, operators, Schrodinger's equation and its solutions, symmetries, spin, multiple particles, approximation methods, scattering, the Dirac equation, and quantization of the electromagnetic field and its interaction with atoms.

PHY 744. Introduction to Quantum Field Theory. (3 h)
Introduction to relativistic quantum field theory, including canonical quantization, path integral techniques, perturbation theory, and renormalization.

PHY 745. Group Theory. (3 h)
Group theory and its applications to the quantum mechanics of atoms, molecules, and solids.

PHY 746. Quantum Information Theory. (3 h)

PHY 752. Solid State Physics. (3 h)
Introductory course including the structure of perfect crystalline solids, their thermal, electronic, and magnetic properties. Crystal symmetries, the free electron and band theory of metals, optical and transport properties, and semiconductors. Consequences of electronic interactions.

PHY 754. Surface Science. (3 h)
Experimental and theoretical methods for the study of surfaces and interfaces. Lab-1.5 hours.

PHY 765. Gravitational and Particle Theory Seminar. (1 h)
Topics in general relativity, particle physics, and astrophysics are studied. Each week a faculty member or member of the class makes an oral presentation on a chosen topic and leads the ensuing discussion. Does not fulfill minimum course requirements for Master's and PhD degrees. May be repeated for credit. S/U only.

PHY 770. Statistical Mechanics. (3 h)
Introduction to probability theory and to the physics of systems containing large numbers of particles from the classical as well as the quantum point of view.

PHY 771. Radiological Physics. (3 h)
The nature and fundamental concepts of ionizing radiation including: ionizing radiation, radiation quantities, attenuation and stopping power, charged particle and radiation equilibria radioactive decay, photon interactions, charged and uncharged particle interactions, x-ray production and quality, dosimetry concepts, ionization cavity theory, and calibration of ionizing radiation beams. Also listed as BMES 771 and MPHY 771.

PHY 773. Radiation Therapy Physics. (3 h)
The physics of radiation treatment including: radiation producing equipment, character of photon and electron radiation beams, radiation dose functions, computerized radiation treatment planning, brachytheraphy, special radiation treatment procedures, quality assurance, and radiation shielding for high energy facilities. Also listed as BMES 773 and MPHY 773.

PHY 774. Ionizing Medical Imaging. (2 h)
This course covers the physical principles, mathematical algorithms and devices used in diagnostic medical imaging, including the following imaging modalities: x-ray digital imaging, digital image receptors, computerized tomography and reconstruction algorithms, ultrasound imaging, magnetic resonance imaging and nuclear medicine imaging. Also listed as BMES 774 and MPHY 774.

PHY 776. Medical Health Physics. (3 h)
Physical and biological aspects for the use of ionizing radiation in medical environments, biological consequences of human radiation exposure, principles of ionizing radiation protection, operational dosimetry, radiation exposure recommendations and regulations, physical principles of radiation shielding design, personnel monitoring, medical health physics instrumentation, and waste disposal. Also listed as BMES 776 and MPHY 776.

PHY 779. Non-Ionizing Medical Imaging. (2 h)
This course covers the physical principles, mathematical algorithms and devices used in diagnostic medical imaging which uses non-ionizing radiation, including the following imaging modalities: x-ray physics, x-ray digital imaging, digital image receptors, computerized tomography and reconstruction algorithms, and nuclear medicine imaging. Also listed as MPHY 779.

PHY 780. Theory of General Relativity. (3 h)
Study of the covariant formulation of physical laws in mechanics and electromagnetism.

PHY 785. Topics in Theoretical Physics. (1-3 h)
Selected topics of current interest in theoretical physics not included in other courses. May be repeated for credit.

PHY 787. Advanced Topics in Physics. (1-3 h)
Lectures on advanced topics in physics that depend on the subspecialty of the instructor. Topics range from medical physics to special topics in biophysics, condensed matter physics, or quantum optics.

PHY 789. Survival Skills for Scientists. (1 h)
Students will learn skills that are essential to a successful career in the sciences. The following topics will be covered: Mentoring; How to Read, Write, and Review a Research Paper; Grant & Fellowship Basics; Choosing a Career Path & Creating a Winning Job Application; and Networking & Giving Effective Talks.

PHY 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

PHY 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

PHY 795. Physics for Education Research. (3 h)
This course will fulfill the requirement for a graduate course in Physics for students in the Masters in Education program seeking certification to teach Physics. This course involves research with a Physics advisor, with a poster or paper report as a final product.

PHY 891. Dissertation Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

PHY 892. Dissertation Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

Faculty

Program Director and Professor Freddie Salsbury
Professor and Department Chair Martin Guthold
Professor and Richard T Williams Faculty Chair in Physics Keith Bonin
Baker Family Professor of Physics Oana Jurchescu
Professor and Harbert Family Distinguished Chair Daniel B. Kim-Shapiro
Professor and Wright Family Endowed Chair in Physics Timo Thonhauser

Professors David L. Carroll, Jed Macosko
Associate Professors Eric D. Carlson, Samuel S. Cho, Gregory B. Cook
Assistant Professors Alejandro Cardenas-Avendano, Emilie Huffman, Ajay Ram Srimath Kandada, Stephen M. Winter, Caitlin Witt
Adjunct Professors J. Daniel Bourland, Michael Munley
Adjunct Associate Professor Adam R. Hall
Affiliate Associate Professors Erin Henslee, Lauren Lowman

Physics, MS

Degree Requirements

Course work must include:

Code	Title	Hours
PHY 711	Classical Mechanics and Mathematical Methods	3
PHY 712	Electromagnetism	3
PHY 741	Quantum Mechanics	3
PHY 601	Physics Seminar	1.5

Thesis Research	7.5
PHY 600 or 700 level courses	12
Total Hours	**30**

If serious conflicts arise (e.g. time conflict with other classes or teaching duties, exceeding allowed credit hours for part-time students), departmental seminar series requirement may be waived for some semesters, at the discretion of the program director. These weekly seminars, in fields of special interest, usually feature outside speakers. The degree requires 30 credit hours; 22.5 hours of coursework with an average grade of B or above plus 7.5 hours of thesis research. At least 12 of the 24 hours must be in courses numbered 700 or above. The remaining 12 hours may be in either 600 or 700 level courses. All work must be completed within six years of the date of initial enrollment in the graduate program.

For additional degree requirements, see Requirements for Degrees.

Physics, PhD

Degree Requirements

Course work must include the following:

Code	Title	Hours
PHY 711	Classical Mechanics and Mathematical Methods *	3
PHY 712	Electromagnetism *	3
PHY 741	Quantum Mechanics *	3
PHY 742	Quantum Mechanics *	3
PHY 770	Statistical Mechanics *	3
PHY 601	Physics Seminar (seven semesters)	3.5

* Unless satisfactorily completed elsewhere.

At least 7.5 hrs of thesis research (PHY 791 or 792) and at least 9 hrs of dissertation research (PHY 891 or 892) are required. Students must also take 9 hours of elective courses -- other than research or seminar classes -- at the graduate level (600 or 700 level), at least 3 hours of which must be in physics. A research advisory committee, appointed after completion of the written preliminary examination, determines the additional courses needed for the degree. Within eighteen months of completing the preliminary written examination, the student submits to his or her individual advisory committee and defends orally a dissertation research plan. This constitutes the oral part of the preliminary exam and upon passing it, the student can be advanced to candidacy.

The research advisory committee meets annually with the student to ensure timely progress toward the degree. Upon completion of the research in the approved plan, the student writes his or her dissertation, presents it to the department, and defends it orally.

For additional degree requirements, see Requirements for Degrees.

Psychology (PSY)

Master of Science

Overview

This research-oriented program emphasizes the scientific, theoretical, and research bases common to all areas of psychology (e.g., social, cognition, personality, developmental, statistics).

The program is designed for capable students who expect to continue to the PhD degree but wish to begin graduate work in a department where they receive a high degree of individual attention from the faculty.

The applicant is expected to have an undergraduate major in psychology at an accredited institution, including a subset of basic foundational courses such as developmental, social, biopsychology, personality, cognition, learning, perception, etc., as well as statistics and/or research methods. Applications are also accepted from students who were not psychology majors as undergraduates, but these applicants should have a background in coursework that prepares the student for graduate level work in psychology.

The areas in which research is currently being conducted include aging, cognitive processes, judgment and decision making, adolescent development, cultural identity, neuropsychology, perception, personality, physiology, and social psychology.

Most students take two academic years to complete the program. Students who hold assistantships are required to spend two years in residence.

Programs

Master of Science

- Psychology, MS

Courses

PSY 620. Physiological Psychology. (3 h)
Neurophysiological and neuroanatomical explanations of behavior.

PSY 622. Psychopharmacology. (3 h)
Survey of the influences of a wide range of psychoactive drugs, both legal and illegal, on human physiology, cognition, and behavior.

PSY 623. Animal Behavior. (3 h)

PSY 626. Learning Theory and Research. (3 h)
Theory and current research in learning, with emphasis on applications of learning principles for behavior modification and comparisons across species.

PSY 629. Perception. (3 h)
Survey of theory and research findings on various sensory systems (vision, hearing, touch, taste).

PSY 631. Research in Cognitive Psychology. (3 h)
In-depth examination of research in a selected area of cognitive psychology such as memory, attention, or executive function. Research projects required.

PSY 633. Motivation of Behavior. (3 h)
Survey of basic motivational concepts and related evidence.

PSY 638. Emotion. (3 h)
Survey of theory, methods, and research in the area of emotion. Developmental, cultural, social-psychological, physiological, personality, and clinical perspectives on emotions are given.

PSY 641. Research in Developmental Psychology. (3 h)
Methodological issues and selected research in child development. Research projects required.

PSY 646. Stereotyping and Prejudice. (3 h)
Research and theory on social and cognitive processes that underlie prejudice and discrimination.

PSY 648. Clinical Neuropsychology. (3 h)
Surveys connections between abnormal neurological processes and clinical abnormalities. This implies already having an understanding of normal brain function and anatomy.

PSY 651. Personality Research. (3 h)
The application of a variety of research procedures to the study of human personality. Research projects required.

PSY 655. Research in Social Psychology. (3 h)
Methodological issues and selected research in the study of the human as a social animal. Field research projects required.

PSY 657. Cross-Cultural Psychology. (3 h)
Examination of differences in psychological processes (e.g., attitudes, perception, mental health, organizational behavior) associated with cultural variation.

PSY 659. Psychology of Gender. (3 h)
Exploration of the psychological similarities and differences between human males and females, including consideration of social, cognitive, motivational, biological, and developmental determinants of behavior.

PSY 662. Psychological Testing. (3 h)
Theory and application of psychological assessment procedures in the areas of intelligence, aptitude, vocational interest, and personality.

PSY 663. Survey of Clinical Psychology. (3 h)
Overview in the field of clinical and other selected areas of applied psychology.

PSY 664. Prejudice, Discrimination, Racism, and Heterosexism. (3 h)
Comparison of cross-cultural similarities and differences in the initiation, maintenance, and treatment of prejudice, discrimination, and racism, with an emphasis on past and current trends in the U.S.

PSY 667. Parent-Child Relationships. (3 h)
Surveys characteristics of parent-child relationships and issues of parenting as related to a variety of factors, including developmental changes of parent and child, family structure, and sociocultural context.

PSY 674. Judgment and Decision Making. (3 h)
Theoretical and empirical examination of how people make decisions and judgments about their lives and the world, and how these processes can be improved.

PSY 692. Contemporary Problems in Psychology. (1.5 h)
Seminar treatment of current theory and research in specific areas within psychology. The course is one-half semester.

PSY 701. Current Topics in Psychology. (1.5 h)
Seminar courses in selected topics in psychology.

PSY 702. Current Topics in Psychology. (1.5 h)
Seminar courses in selected topics in psychology.

PSY 703. Current Topics in Psychology. (3 h)
Seminar course in selected topics in psychology.

PSY 715. Research Design and Analysis in Psychology I. (3 h)
Intensive study of analysis of research data in psychology. Covers methods such as analysis of variance, contrast analysis, and other techniques, as well as in-depth discussions of data analytic issues like the logic of hypothesis testing, benefits and concerns regarding preregistration, etc. Requires previous coursework in basic statistics. Permission of instructor required.

PSY 716. Research Design and Analysis in Psychology II. (3 h)
Intensive study of analysis of research data in psychology. Covers methods such as linear regression, multilevel modeling, logistic regression, multivariate analysis of variance, factor analysis, path analysis, and structural equation modeling. Requires previous coursework in basic statistics. P-PSY 715.

PSY 718. Data Science for Psychologists. (3 h)
Intensive study of data science methods for psychological research. Covers data wrangling, visualization, modeling, and reproducible analysis using contemporary statistical software. Requires previous or concurrent coursework in basic statistics. Permission of instructor required.

PSY 720. Biological Psychology. (3 h)
Study of the biological basis of behavior and mental processes, with emphasis on current developments in neuroscience, and human applications of this information. Laboratory work in neuroanatomy and psychophysiology.

PSY 728. Human Cognition. (3 h)
Current theory and research on functional characteristics and neural correlates of cognitive processes in such areas as memory, attention, and language.

PSY 738. Learning and Motivation. (3 h)
Basic learning principles and concepts and related motivational concepts.

PSY 742. Seminar in Developmental Psychology. (3 h)
Critical examination of the major findings, principles, and theories of development, with attention to both human and lower-animal research.

PSY 752. Seminar in Social Psychology. (3 h)
Content and methodology of social psychology examined through a critical and comparative analysis of contemporary theory and literature.

PSY 757. Seminar in Personality Psychology. (3 h)
Evaluation of contemporary solutions to important problems in personality psychology, with special attention to historical context and anticipated future directions.

PSY 770. Psychology Practicum. (1-3 h)
Work experience in an applied psychology setting (such as clinical or industrial) under a qualified supervisor.

PSY 771. Psychology Practicum. (1-3 h)
Work experience in an applied psychology setting (such as clinical or industrial) under a qualified supervisor.

PSY 772. Psychology Practicum. (1-3 h)
Work experience in an applied psychology setting (such as clinical or industrial) under a qualified supervisor.

PSY 773. Psychology Practicum. (1-3 h)
Work experience in an applied psychology setting (such as clinical or industrial) under a qualified supervisor.

PSY 782. Readings and Research in Psychology. (1-3 h)
This listing allows the graduate student, working under the supervision of a faculty member, to pursue and receive credit for 1) a special reading project in an area not covered by regular courses or 2) a special research project not related to the master's thesis. Supervising faculty member and hours credit for which enrolled determined by graduate committee prior to registration.

PSY 785. Directed Thesis Research I. (3 h)
First-year students undertake a substantial research project under the direction of their advisor.

PSY 786. Directed Thesis Research. (3 h)

PSY 791. Thesis Research I. (1-9 h)

PSY 792. Thesis Research II. (1-9 h)

Faculty

Program Director R. Michael Furr
Chair Christy M. Buchanan
Harold W. Tribble Professor of Psychology Eranda Jayawickreme
Hultquist Family Professor of Psychology William W. Fleeson
Professors Christy M. Buchanan, R. Michael Furr, Lisa Kiang, John V. Petrocelli, Wayne E. Pratt, Eric R. Stone, Christian E. Waugh
Associate Professors Janine M. Jennings, Lara Kammrath, E.J. Masicampo
Assistant Professors Merve Balkaya-Ince, Shannon T. Brady, Veronica Cole, S. Mason Garrison, Anthony W. Sali, Brad Stilwell, Stefon van Noordt

Psychology, MS

Degree Requirements

The degree requires 42 credit hours; 24 hours of coursework with an average grade of B or above plus 18 hours of thesis research. All hours must be in courses numbered 700 or above. All graduate students must complete coursework and conduct and defend a thesis. All work must be completed within six years of the date of initial enrollment in the graduate program.

For additional degree requirements, see Requirements for Degrees.

Quantum Information Sciences (QIS)

Overview

Master of Science

Overview

Opportunities for study are those usually associated with large research universities, while the atmosphere of a small liberal arts university with an ideal faculty/student ratio is maintained.

For admission to the MS program, students should have knowledge of senior level undergraduate mechanics, electricity and magnetism, and quantum physics. For admission to the certificate program, students should have knowledge of senior level undergraduate and quantum physics. The course of study for each student is planned in conference with the graduate advisor after an evaluation of academic background and experience

Our mission is to nurture the upcoming wave of thinkers, scientists, and engineers in the expanding fields of quantum information and quantum technologies. We concentrate on the intersection where quantum information processing connects with quantum machines, creating a synergy for innovation and discovery.

The curriculum encompasses: 1) an understanding of fundamental quantum principles and quantum information concepts, 2) the theoretical and experimental aspects of quantum matter, exploring the boundaries of information capacity and transmission, 3) the development and functionality of quantum devices, focusing on the production and operation of quantum decision-makers, and 4) the comprehensive study of quantum computing, from gate-level operations to programming languages, incorporating the quintessential quantum algorithms that characterize the field.

For more details email the program director, Dr. Fred Salsbury (salsbufr@wfu.edu)

Programs

- Quantum Information Sciences, MS
- Quantum Information Sciences, Certificate

Quantum Information Sciences, MS

Degree Requirements

Course work must include the following:

Code	Title	Hours
PHY 711	Classical Mechanics and Mathematical Methods	3
PHY 712	Electromagnetism	3
PHY 741	Quantum Mechanics	3
PHY 746	Quantum Information Theory	3
PHY 654	Introduction to Solid State Physics	3
PHY 601	Physics Seminar (seven semesters)	1.5
PHY 791	Thesis Research I	7.5
Elective Courses		6
Total Hours		**30**

Students must take six hours of elective courses taken from an approved list. These are selected in consultation with and approved by the physics graduate program director and their RAC. Specific courses might not be taught every year.

For additional degree requirements, see Requirements for Degrees.

Statistics (STA)

Statistics (STA)

Master of Science

Overview

The Department of Statistical Sciences offers the degree of M.S. in Statistics. The program is designed to accommodate both students seeking a terminal degree for work in industry as well as those seeking preparation for Ph.D. in Statistics or Biostatistics at another institution. The degree requirements are flexible and permit both thesis and coursework programs of study, with opportunities to engage in research as well as data analysis competitions.

Programs

- Statistics, MS
- Data Science, Certificate

Courses

STA 601. Fundamentals of Statistics. (3 h)
Fundamental concepts and methods for the design, analysis, and interpretation of statistical data. Focuses on the development and application of parametric and nonparametric statistical methods for common data types as well as using computational approaches to conduct, organize, communicate, and present findings.

STA 610. Probability. (3 h)
Distributions of discrete and continuous random variables, sampling distributions. Covers much of the material on the syllabus for the first actuarial exam. This course is cross-listed as MTH 657.

STA 611. Statistical Inference. (3 h)
Derivation of point estimators, hypothesis testing, and confidence intervals, using both frequentist and Bayesian approaches. P-STA 610 or MTH 657 or POI.

STA 612. Linear Models. (3 h)
Theory of estimation and testing in linear models. Topics include least squares and the normal equations, the Gauss-Markov Theorem, testing general linear hypothesis, model selection, and applications. P-STA 610 or MTH 657, or POI.

STA 652. Networks: Models and Analysis. (3 h)
A course in fundamental network theory concepts, including measures of network structure, community detection, clustering, and network modeling and inference. Topics also draw from recent advances in the analysis of networks and network data, as well as applications in economics, sociology, biology, computer science, and other areas.

STA 662. Multivariate Statistics. (3 h)
Multivariate and generalized linear methods for classification, visualization, discrimination, and analysis.

STA 663. Introduction to Statistical Learning. (3 h)
An introduction to supervised learning. Topics may include lasso and ridge regression, splines, generalized additive models, random forests, and support vector machines. Requires prior experience with R programming.

STA 664. Computational Statistics. (3 h)
Computationally intensive statistical methods. Topics may include simulation, optimization, numerical integration, Monte Carlo methods, and nonparametric methods. Students will make extensive use of statistical software throughout the course, P-MTH 657 or STA 610.

STA 665. Applied Bayesian Statistics. (3 h)
An introduction to Bayesian statistics and computational methods for performing Bayesian data analysis. Topics may include conjugate distributions, objective prior distributions, Bayesian inference, hierarchical models, and Markov chain Monte Carlo methods. P - STA 610 and a previous course in regression.

STA 668. Time Series and Forecasting. (3 h)
Methods and models for time series processes and autocorrelated data. Topics include model diagnostics, ARMA models, spectral methods, computational considerations, and forecasting error. P-STA 610 or MTH 657, or POI.

STA 679. Advanced Topics in Statistics. (1-3 h)
Topics in statistics not considered in regular courses or which continue study begun in regular courses. May be repeated for credit if the topic varies. Content and prerequisites vary.

STA 682. Readings in Statistics. (1-3 h)
Reading in statistical topics to provide a foundational basis for more advanced study in a particular area. May not be used to satisfy any requirement in the MS degree with thesis. No more than three hours may be applied to the requirements for the MS degree without thesis May be repeated for credit for a total of 3 hours.

STA 683. Individual Study. (1-3 h)
A course of independent study directed by a faculty adviser. By prearrangement. May be repeated for credit.

STA 684. Internship in Statistics. (1-3 h)
Individual, external internship in a professional setting, completed under the supervision of a faculty member. The student is responsible for identifying and obtaining the internship. May be repeated for credit. Pass/Fail only. Permission of Instructor required.

STA 710. Stochastic Processes and Applications. (3 h)
This course includes the axiomatic foundations of probability theory and an introduction to stochastic processes. Applications may include Markov chains, Markov chain Monte Carlo with Metropolis-Hastings, Gibbs sampling, Brownian motion, and related topics, with an emphasis on modern developments. This course is cross-listed as MTH 757. P-STA 610 or MTH 657 and MTH 611 or POI.

STA 711. Advanced Statistical Inference. (3 h)
Advanced mathematical treatment of point estimators, hypothesis testings, and confidence intervals, using both frequentist and Bayesian approaches. P-STA 610 or MTH 657, or POI.

STA 712. Generalized Linear Models. (3 h)
Extensions of the classical linear model to cover models for binary and count data, ordinal and nominal categorical data, and time-to-event data, along with numerical maximization techniques needed to fit such models. Additional topics may include longitudinal data, the Expectation-Maximization algorithm, non-linear models, or related topics. P-STA 612 and STA 711 or POI.

STA 720. Bayesian Analysis. (3 h)
Fundamental concepts, theory, and computational methods for Bayesian inference. Topics may include decision theory, evaluating Bayesian estimators, Bayesian testing and credible intervals, Markov chain Monte Carlo methods, and hierarchical models. P-STA 610 or MTH 657, or POI.

STA 721. Statistical Aspects of Clinical Trials. (3 h)
An introduction to clinical trials from a statistician's perspective. Materials will cover the design of clinical trial including power calculations and randomization procedures, the analysis of study outcomes, and the communication of results. Assumes knowledge of R and general linear models. P-STA 612.

STA 733. Applied Survival Analysis. (3 h)
Analysis of time-to-event outcomes subject to censoring and truncation. Topics include nonparametric, semiparametric, and parametric approaches to modeling survival quantities and conducting inference. P-STA 610.

STA 742. Causal Inference. (3 h)
This course provides students with essential skills for conducting causal inference analyses. Students will learn how to implement causal inference methods, evaluate critical assumptions, and perform sensitivity analyses to rigorously assess causal relationships. P-STA 610.

STA 779. Topics in Statistics. (3 h)
Topics and prerequisites vary by instructor. May be repeated for credit ifthe topic varies.

STA 791. Thesis Research. (1-9 h)
Research performed under the supervision of the thesis advisor. A research proposal is written and approved by the thesis committee, and an oral presentation is given on the research plan. May berepeated for credit. Satisfactory/Unsatisfactory.

STA 792. Thesis Research. (1-9 h)
Research performed under the supervision of the thesis advisor, in preparation for a thesis defense. May be repeated for credit. Satisfactory/Unsatisfactory P-satisfactory completion of STA 791.

Faculty

Program Director Daniel Beavers
Chair Robert Erhardt
Professors Kenneth Berenhaut, Robert Erhardt
Associate Professors Dan Beavers, Staci Hepler, Emily Huang, Lucy D'Agostino McGowan
Assistant Professors Leonardo Cella, Noah Gade, Sarah Lotspeich
Associate Teaching Professor Ciaran Evans

Statistics, MS

Degree Requirements

The requirements for the MS degree are met by completing three required courses, and by selecting either the thesis option or the coursework option and completing those specific requirements. The three required courses of all students are:

Code	Title	Hours
STA 612	Linear Models	3
STA 711	Advanced Statistical Inference	3
STA 712	Generalized Linear Models	3

Thesis Option

If a thesis is written, 30 semester hours of coursework, including STA 791, STA 792 and at least four additional 3-hour courses numbered above 700 (which includes STA 711 and STA 712) are required for the MS degree.

Coursework Option

If a thesis is not written, 36 semester hours of coursework, including at least four 3-hour courses numbered above 700 (which includes STA 711 and STA 712), are required for the MS degree. STA 791 and STA 792 cannot be counted as part of this coursework.

With the approval of the Graduate Committee, graduate courses outside of STA may be taken in related areas to fulfill requirements; however, no more than 9 such hours may count towards the MS degree.

For additional degree requirements, see Requirements for Degrees.

Sustainability (SUS)

Master of Arts

Overview

This innovative and distinctive one-year program combines social sciences, humanities, natural sciences, management and law. Courses taught will include guest lecturers and off-site facility visits. As a result, students will have unparalleled opportunities to engage with professionals beyond the Wake Forest campus. In addition to completing the four core courses, students will engage with organizations outside of the classroom through the completion of a two-credit practicum in Applied Sustainability as well as through course electives. In the summer following the second semester, students will complete a research thesis or internship.

The program's mission is to educate the next generation of leaders in sustainability and place them where they can be most effective. We provide students with a high caliber education and prepare them to enter the workforce or create new ventures to address the social, economic and environmental demands in their respective fields. We educate students to be change agents and develop a vision for ways to invest in and contribute to sustainable future. The program expands Wake Forest's commitment to sustainability and creates opportunities for faculty members to direct their teaching and scholarship toward sustainability-related topics. The multidisciplinary program strengthens collaboration among the different schools at Wake Forest University and the greater communities of business, government agencies, and non-government organizations.

Candidates do not share a typical background nor are they required to have completed specific prerequisites prior to matriculation. The profile of a candidate will typically take the form of an accomplished mid-career professional seeking to re-orient or supplement their career with deep expertise in the field of sustainability, or a recent undergraduate from an accredited institution of higher education. The integrated curriculum of our programs prepares students to join the vanguard of the sustainability movement, which is generating extensive and diverse opportunities for graduates in both large and small private business, as well as in NGOs, and government bodies. Candidates for the degree will explore and inform their calling in sustainability and add value to their professional endeavors while simultaneously satisfying the urgent societal need for highly knowledgeable leaders in the field of sustainability.

Programs

- Sustainability, MA
- Sustainability, JD/MA
- Sustainability, MDiv/MA
- Sustainability, Certificate

Courses

SUS 600. Communications Workshop. (1 h)
Effective, persuasive communication requires clarity, engaging language, sound reasoning, and an informed appreciation of audience. To that end, this workshop seeks to equip students as change agents that can effectively articulate a vision for ways to invest in and contribute to creating a sustainable future. Specifically, the Communication Skills Workshop teaches you how to apply such concepts to forms of written (e.g., memos) and oral (e.g., PowerPoint presentations) communication typically found in business and non-profit organizational settings. The workshop includes numerous interactive lessons that focus on the essentials of dynamic and economical writing, argument and evidentiary analysis, engaging and well-researched oral presentations, and audience adaptation.

SUS 601. Professional and Leadership Skills. (1 h)
This workshop will support students in understanding and developing the skills required to be thought leaders in the sustainability field. Learning will focus on leadership skills required to create meaningful change in various organizational settings. Topics include influencing others, collaborating in teams, managing conflict and working across cultures. To enhance self-awareness we will employ self-assessments and the creation of a program-long development plan.

SUS 602. Scientific Literacy. (1 h)
In this course we will focus on the nature of scientific inquiry, and explore how it is pursued, reported, and applied. In particular, we will focus on the intersection of climate science and the scientific study of attitudes/beliefs about climate science. We will also explore the projected impacts on and policy responses from the state of North Carolina.

SUS 603. Natural Capital Valuation and Ecosystem Services. (1 h)
This workshop introduces the concept of Ecosystem Services and Natural Capital Valuation in theory and practice. It focuses broadly on the concept of natural capital and the process of valuing ecosystem services, and more closely on how the process is working at multiple scales in policy, markets and projects. Ecosystem services is a new and rapidly growing field that crosses science, policy and management. Practitioners have varied expertise; from spatial modelers, research scientist, and economists, to policy makers and social scientists. We will cover some of the historical development and current state of the ecosystem services markets specifically for carbon and water. Critical spatial tools of GIS and spatial modeling of ecosystem services are also introduced.

SUS 625. Environmental Decision-Making. (3 h)
The complex nature of the environment makes the choices made about environmental issues difficult and incomplete. The course offers a simple but comprehensive understanding of the important interplay between science, economics, and values that must be considered, when making informed environmental decisions. A selection of case studies from around the world are highlighted but emphasis will be given to case studies from the United States.

SUS 630. Global Coastal Management. (3 h)
Major issues impacting coastal zones of the world are explored. Management and governance themes used in shaping coastal behavior are emphasized from both an integrative and multi-disciplinary perspective. In particular, the following three issues are examined: the threat to coastal environments from a rapidly growing human population and pollution; the destruction of critical resources and vital ecosystems through unsustainable economic activities; and the difficult challenges governments face in crafting effective coastal management initiatives. The course takes a global perspective, but some emphasis will be given to coastal zones of the United States.

SUS 691. Special Topics. (1-3 h)
Examination of topics not covered in the regular curriculum.

SUS 694. Internship. (1-4 h)
Internships are available for a student who has completed one year of graduate study and desires experience working in the private sector or a nonprofit or government agency. Internships typically take place during the summer months and last for three months, although the timing and duration may be adjusted to satisfy each student's needs and the type of internship available. Credit hours are adjusted based on the length of the internship. The student receives a written evaluation from the host organization mentor and is required to submit a written report of his/her work. May be repeated for up to 4 credits.

SUS 695. Individual Study. (1-3 h)
Opportunity to pursue a topic covered in a regular course in greater depth or topics relevant to the student's field of concentration. Usually involves extensive reading and tutorial sessions with a faculty supervisor. Written papers may be required. May be repeated for up to 6 credits.

SUS 701. Global Human Systems. (3 h)
Sustainability is a human term with context specific connotations—in other words deployments of the term in the public sphere often tell us more about the perceptions and values of those utilizing the term than they do about what is central to achieving sustainability. In this course we will interrogate the ways in which uses of this human term intersect with earth systems and politics. Students will gain a basic understanding of earth systems science, gather historical data related to human impacts on earth systems, and study human values as they relate to the other-than-human entities with which they share their habitats. Fundamentally, the goal of this course is to go beyond the traditional disciplinary divides (natural science, social sciences, and humanities), to begin to sketch the outlines of each of these areas while highlighting important convergences and differences.

SUS 702. Sustainable Organizational Management. (3 h)
Are organizations part of the problem or part of the solution – or both? What practices will produce desirable organizational outcomes and improve the environment? This course will provide information to address these questions. It will include an overview of the presence and impact of sustainable practices in private and public sector organizations. The course information and experiences will equip participants with the ability to think critically about the trade-offs inherent in the relationship between certain organizational decisions and sustainability best practices.

SUS 703. Natural Science for Sustainability. (3 h)
Students will explore qualitative and quantitative chemical and physical aspects of sustainability for waste, water, air, and energy. The course provides an in-depth scientific understanding of the most important nonrenewable and renewable energy sources. Students will study the world's present and future energy needs, focus on energy production, consumption, and environmental impact, and explore ways in which these principles relate to sustainability. The sustainability and environmental trade off of different energy systems will be studied.

SUS 704. Environmental Law and Policy. (3 h)
To understand how we can move toward sustainability domestically and abroad, we must understand how and why law and policy are developed, challenged, and changed. This course will look at the historical development of environmentalism and the movements that provided the impetus for modern environmental legal regimes, as well as case studies illustrating contemporary environmental issues. We will cover common law and statutory remedies for private citizens, principles of federalism and separation of powers, agency rule-making, the role of the judiciary in environmental law and policy, and international environmental law. Each case study in this course will emphasize one of the major U.S. environmental statutes, so that upon completion of the course you will not only have a foundation in law and policy processes but also a familiarity with the most significant U.S. statutory schemes.

SUS 705. Applied Sustainability 1. (2 h)
This course will introduce you to the practice of building sustainable systems in today's world. In it you should improve your ability to understand design principles for sustainability, assess sustainability actions of organizations at all levels, use different frameworks to track and assess sustainability, and apply your skill sin effectively managing change. The objective of this course is for us to learn how to advance sustainability today, see what might be done in the future, and identify opportunities that exist for each of us. We will use a variety of learning experiences, including site visits, group presentations and in class presentations by outside leaders.

SUS 706. Applied Sustainability: Creativity and Impact. (2 h)
Applied Sustainability is crafted to experience sustainability in action through Human Centered Design. Human Centered Design is a philosophy, a set of abilities, a set of mindsets, and a set of practices that proves invaluable in addressing the sustainability issues of our time. This way of working is a making based approach to problem solving and solution development. You will apply and practice the mindsets and abilities of design in different scenarios and different scales to address sustainability problems, and develop and build on new to the world ideas. This class is project oriented and team based. This course as a journey culminates with a client/community based sustainability practicum. Overall, this class emphasizes new ways of approaching work and life.

SUS 710. Sustainable Urban Planning and the Built Environment. (3 h)
This course will explore the tenets of sustainable construction and high performance building practices and prepare students for the U.S. Green Building Council's LEED Green Associate Exam. LEED, or Leadership in Energy & Environmental Design, is a certification program that recognizes best-in-class building strategies practices. Sustainable architecture and construction seeks to minimize the negative environmental impact of buildings by efficiency and moderation in the use of materials, energy, and development space. This course widens the conversation to include how buildings and other community planning impacts urban environments. The focus of this planning is to satisfy construction and design goals with sustainable outcomes.

SUS 715. Environmental Sustainability in a Global Context. (2 h)
Students will develop practical problem-solving skills that address the challenges of climate change in an international context. This experiential learning course employs a variety of interdisciplinary approaches to explore concepts related to climate change adaptation. Students will interact with practitioners and stakeholders in various economic and political sectors to develop a group client-based project that supports real policy and management decisions on sustainable practices. Students will have the opportunity to travel internationally to visit affected areas and meet with government officials, researchers, conservationists, and economic planners. This course offers students a firsthand opportunity to conduct field research, hone interviewing practices, draft policy reports, and engage clients.

SUS 720. Sustainability Practices and Policy in a National Context. (1 h)
This seminar is designed specifically for graduate students in sustainability, students who are early and mid-career professionals looking to transition into careers in sustainability or environmental protection through business, government, NGOs, policy institutes or non-profits. Students will hear from and meet with a range of experts in climate change and sustainability, learn about the work they do and get a clear understanding of the challenges they face (practically and politically) and the impact they can have. This seminar will model possible career paths and provide networking opportunities.

SUS 791. Thesis Research. (1-4 h)
This course is one of the two options, the other being an internship, which would satisfy the capstone requirement for the MA students, needed for graduation.

Faculty

Program Director Eric Stottlemyer
Professors Miles Silman, John Knox, Dick Schneider
Associate Professor David Phillips
Assistant Professor Rowena Kirby-Straker
Professor of Practice Scott Schang
Affiliate Faculty Elise Barrella, Jon Clift, James Cooper, Michael Curley, Rebecca Dickson, Elizabeth Pierce, Charlie Schwarze, Nancy Winfrey

Sustainability, MA

Degree Requirements

Students are required to complete a minimum of 30 credit hours from the following courses:

Code	Title	Hours
SUS 600	Communications Workshop	1
SUS 601	Professional and Leadership Skills	1
SUS 602	Scientific Literacy	1
SUS 603	Natural Capital Valuation and Ecosystem Services	1
SUS 701	Global Human Systems	3
SUS 702	Sustainable Organizational Management	3
SUS 703	Natural Science for Sustainability	3
SUS 704	Environmental Law and Policy	3
SUS 705	Applied Sustainability 1	2
SUS 706	Applied Sustainability: Creativity and Impact	2
Select 6 credit hours of electives		6
SUS 694	Internship	4
or SUS 791	Thesis Research	
Total Hours		**30**

For additional degree requirements, see Requirements for Degrees.

Dual Degrees

- Bioethics, BA/BS & MA Five Year Program
- Bioethics, JD/MA
- Bioethics, MD/MA
- Bioethics, MDiv/MA
- Computer Science, BS & MS Five Year Program
- Content Creation & Strategic Storytelling, BA/BS & MA Five Year Program
- Counseling, MDiv/MA
- Education, MDiv/MAED
- MD/PhD
- PhD/MBA
- Sustainability, JD/MA
- Sustainability, MDiv/MA

Bioethics, BA/BS & MA Five Year Program

(Available to WFU undergraduate students)

Overview

Sponsored by Wake Forest College and the WFU Graduate School of Arts & Sciences, the Bachelor of Arts/Sciences & Master of Arts in Bioethics can be completed in as little as 5 years (10 semesters + 1 summer). By allowing students who are admitted to the program to begin graduate bioethics coursework while enrolled through the College, students are able to earn two degrees in less time than it would take to earn the two degrees separately.

Undergraduate students must complete all requirements for the undergraduate program, including major, minor, and general requirements (generally, 120 credit hours). Students who are able to complete the 120 credit hours required for the undergraduate degree in fewer than the typical four years and are accepted into the five year program may take up to nine credit hours of graduate level bioethics courses while they are enrolled in the College. The Graduate School will accept those credit hours toward the Master of Arts in Bioethics degree if they are above and beyond the minimum 120 hours required to receive a BA/BS. The graduate credit hours earned toward the MA degree during the undergraduate years may not be part of the 120 credit hours required for the undergraduate degree.

Students accepted to the program spend their first four years full-time in the College, followed by a year or more in the bioethics program. The year typically will consist of two semesters plus a summer for students who complete at least six hours of transferable graduate work during their undergraduate years. Because students must complete all the requirements for the undergraduate degree independently of their Bioethics coursework, students receive their BA/BS degrees when they complete their BA/BS graduation requirements. The MA is awarded separately after completion of the MA requirements. The five year program requires undergraduates to enroll in 700-level bioethics courses. As part of their acceptance into the program, all accepted students will meet criteria for enrollment of undergraduate students in graduate courses.

Typically, students interested in the BA/BS & MA in Bioethics apply no later than the spring semester of their junior year. Students should alert the Associate Director of the Bioethics Graduate Program of their intent to apply and follow the usual procedures for making an application for admission to a graduate program at the Graduate School of Arts & Sciences. The Graduate Record Examination (GRE) is optional. Only students in good academic standing according to the standards of Wake Forest College should apply.

To remain in the program, students must remain in good academic standing with both Wake Forest College and the Graduate School of Arts & Sciences.

Degree Requirements

The degree requires 30 credit hours; 24-26 hours of coursework with an average grade of B or above plus either 4 hours of capstone project (BIE 795) OR 6 hours of thesis research (BIE 791-792). Students must take BIE 703 (3 hours) and BIE 706/BIE 707 (3 hours). Additionally, students must take two of the three following courses: (BIE 702 (3 hours), BIE 704 (3 hours), or BIE 705 (3 hours). The remaining 12-14 hours may be in either 600 or 700 level Bioethics courses. With program permission, up to 6 of those hours may be from non-Bioethics graduate level courses. All work must be completed within six years of the date of initial enrollment in the graduate program.

For additional degree requirements, see Requirements for Degrees.

Bioethics, JD/MA

Overview

Under the joint auspices of the Wake Forest University School of Law and the Graduate School of Arts and Sciences, the JD/MA in Bioethics facilitates an interdisciplinary and comparative study of law and bioethics and encourages students whose academic or career interests require gaining competence in both disciplines. By allowing some law courses to count as electives toward the MA degree, as well as by allowing some graduate bioethics courses to count among the elective credits permitted within the JD curriculum, students are able to earn the dual degree in less time than it would take to earn the two degrees separately. The student in the JD/MA divides their time between the School of Law and the Bioethics Graduate Program and benefits not only from an array of course offerings from both curricula, but also from the social and general intellectual life of both academic programs.

Degree Requirements

Students may receive the dual degree in as little as seven semesters, usually registering with the School of Law for six semesters and with the Graduate School for at least one semester. The dual degree grants 12 hours of law credit for Bioethics coursework and 6 hours of bioethics credit for law coursework. Typically, students spend their first year full-time in the law school, complete 12 Bioethics hours during their 2nd and 3rd years of law school, and enroll for one semester full-time in the Bioethics program to complete Bioethics coursework plus 4 hours capstone project (BIE 795) OR 6 hours of thesis research (BIE 791/792).

All students must take BIE 703(3 hours) and BIE 706/BIE 707 (3 hours). Additionally, all students must take two of the three following courses: BIE 702 (3 hours), BIE 704 (3hours), BIE 705(3 hours). The remaining 6-8 hours may be in either 600 or 700 level Bioethics courses.

For additional degree requirements, see Requirements for Degrees.

Admissions

Admission to the dual JD/MA program is a two-tiered process. Students interested in the program must apply separately to the School of Law and the Graduate School of Arts and Sciences and be accepted for admission by both schools. These applications do not need to be simultaneous, but they should indicate their intent to be considered for the dual degree program on their respective applications to the School of Law and the Graduate School. Alternatively, students may submit a separate application to enroll in the dual degree program if already admitted to either School. In order to be considered eligible for admission, the JD/MA candidate must complete Law School admission requirements for standardized test (currently, the Law School Admission Test (LSAT) or Graduate Record Examination (GRE)). Final decision about admission to the program is made by a joint committee of the JD/MA program. Students should consult the prospectuses of both schools for information about tuition and financial assistance.

To continue in the program, students must remain in good academic standing in both the School of Law and the Graduate School of Arts & Sciences.

Bioethics, MD/MA

Overview

The Wake Forest University School of Medicine and Graduate School of Arts and Sciences offers a dual degree program, Doctor of Medicine (MD) and Master of Arts in Bioethics (MA). The program's objective is to facilitate an interdisciplinary and comparative study of bioethics and medicine, and to encourage students whose academic or career interests require gaining competence in both disciplines. Students are able to earn two advanced degrees in less time than it would take to earn the two degrees separately.

The dual degree program in bioethics and medicine signals the commitment of both the School of Medicine and the Graduate School of Arts and Sciences to interdisciplinary collaboration and learning. By spending their time in both the Medical School and the Bioethics Graduate Program, students benefit not only from an array of course offerings from both curricula, but also from the social and general intellectual life of both academic programs.

Students accepted to the MD/MA in Bioethics dual degree program spend four full years in medical school and one year in the Bioethics Program. After completing initial clerkships in third year OR after initial rotations of the fourth year of medical school curriculum, students enroll in the MA in Bioethics program from August-August and then return to the School of Medicine to finish their medical school curriculum. The students in the program will complete their MA in Bioethics and have the MA degree conferred at the conclusion of the time (11 ½ months) in the bioethics program.

Degree Requirements

The Bioethics requirements of the MD/MA in Bioethics dual degree are 24-26 hours of (bioethics) coursework and either 4 hours capstone project (BIE 795) OR 6 hours of bioethics thesis research (BIE 791-792). At least 12 of the 24 hours must be in courses numbered 700 or above. The remaining 12-14 hours may be in either 600 or 700 level courses.

All MA students must take BIE 703 (3 hours) and BIE 706/BIE 707 (3 hours). Additionally, all MA students must take two of the three following courses: BIE 702 (3 hours), BIE 704 (3 hours), BIE 705 (3 hours). The remaining 12-14 hours may be in either 600 or 700 level Bioethics courses. With program permission, up to 6 of those hours may be from non-Bioethics graduate level courses.

For additional degree requirements, see Requirements for Degrees.

Admissions

Admission to the MD/MA in Bioethics dual degree program is a two-tiered process. Students interested in the program must apply separately to the School of Medicine and the Graduate School of Arts and Sciences and be accepted for admission by both schools. Application to the Graduate School of Arts and Sciences should be made after notifying the appropriate individuals in the School of Medicine to discuss and receive approval for a leave of absence if accepted in the MA in Bioethics Graduate program. The applicant will have already taken the Medical College Admission Test (MCAT). In order to be considered eligible for admission to the dual degree program, the applicant will provide their MCAT scores as part of the Graduate School/bioethics application. Students should consult the prospectuses of both schools for information about tuition and financial assistance.

To continue in the program, students must remain in good academic standing under the minimum standards of both the School of Medicine and the Graduate School of Arts & Sciences.

Bioethics, MDiv/MA

Overview

Sponsored by the Wake Forest University School of Divinity and the Graduate School of Arts & Sciences, the MDiv/MA in Bioethics facilitates an interdisciplinary conversation between theology and bioethics and provides resources for students whose vocational aims require knowledge and/or competence in both disciplines.

The MDiv/MA can be completed in as little as seven semesters. A student typically completes two and one-half years of work (five semesters) primarily in the School of Divinity. The final two semesters are completed in the Bioethics Graduate Program but with some electives taken in the School of Divinity. Shared courses are dual degree appropriate, selected from a list of courses agreed upon by the School of Divinity and the Bioethics Graduate Program.

Degree Requirements

A MDiv/MA Bioethics student earns 61 credit hours from the Divinity program, 26 credit hours from the Bioethics program (including either 4 credit BIE capstone (BIE 795) or 6-credit BIE thesis requirement (BIE 791/792), and 4-6 elective hours from either program. All students must take BIE 703 (3 hours) and BIE 706/BIE 707 (3 hours). Additionally, students must take two of the three following courses: BIE 702 (3 hours), BIE 704 (3 hours), and BIE 705 (3 hours).

For additional degree requirements, see Requirements for Degrees.

Admissions

Admission to the dual degree program is a two-tiered process. Interested students must apply separately to the School of Divinity and the Graduate School of Arts and Sciences and be accepted for admission by both schools. These applications do not need to be simultaneous, but students should indicate on each application their desire to be considered for the dual degree program. Applications are reviewed separately by each program's admissions committee. Alternatively, students may submit a separate application to enroll in the dual degree program if already admitted to either School. Typically, students make application to the dual degree program by the time they complete one semester in either School. A joint admissions committee composed of members from both schools makes final admissions decisions. The joint committee also oversees and reviews admissions policies for the dual degree. The Graduate Record Exam (GRE) is optional for applications to the Bioethics Graduate Program. The School of Divinity recommends, but does not require, GRE scores.

Students are required to follow the student handbook of the school through which they are enrolled. To continue in the program, a student must remain in good academic standing with both the School of Divinity and the Graduate School of Arts and Sciences.

Computer Science, BS & MS Five Year Program

(Available to WFU undergraduate students)

Program Director William Turkett

Overview

This program allows Wake Forest University undergraduates pursuing a B.S. degree in Computer Science to also complete an M.S. degree in Computer Science with one additional year of study. Admitted students begin computer science graduate coursework during their senior year, complete an approved internship the following summer, and then finish the remaining graduate coursework the following academic year. This program provides a unique combination of computer science graduate coursework and experiential learning in a professional setting, and it is an excellent option for students seeking a more industry-oriented career.

Applicants must be enrolled in and complete the B.S. degree in Computer Science at Wake Forest University. Students must apply for admission before the spring semester of their junior year and only after completing eighteen hours in the major that must include:

Code	Title	Hours
CSC 251	Computer Systems II	3
CSC 201	Data Structures and Algorithms	3
MTH 121	Linear Algebra I	3
or MTH 205	Introduction to Linear Algebra and Differential Equations	

Applicants must have a major and overall GPA of 3.25 or better at the time of application and undergraduate graduation. In addition, applicants must provide three recommendation letters (submitted via the Graduate School), two of which must be from Wake Forest University computer science faculty. The Graduate Record Examination (GRE) is not required for admission.

Degree Requirements

In addition to completing the requirements for the B.S. degree in Computer Science (this includes completion with a major and an overall GPA of at least 3.25), the program requires the completion of thirty-three semester hours of graduate coursework. The coursework must include the nine-hour core consisting of:

Code	Title	Hours
CSC 631	Software Engineering	3
CSC 641	Operating Systems	3
CSC 721	Theory of Algorithms	3
Total Hours		**9**

Given the short duration of this program, the thirty-three hours of graduate coursework will be completed as follows: Admitted students must enroll in at least nine hours of computer science graduate coursework during their senior year. Students must also complete six hours of approved computer science graduate internship coursework during the summer following the completion of their undergraduate degree. The remaining eighteen hours of coursework will be completed during the next academic year and are selected from computer science graduate courses with at least six of these hours from non-core 700-level courses. Note the following courses cannot be used to complete this program:

Code	Title	Hours
CSC 791	Thesis Research I	1-9
CSC 792	Thesis Research II	1-9
CSC 795	Project	3

For additional degree requirements, see Requirements for Degrees.

Content Creation & Strategic Storytelling, BA/BS & MA Five Year Program

Overview

Master of Arts

Overview

The 4+1 Master of Arts in Content Creation & Strategic Storytelling is an interdisciplinary graduate program housed within the Graduate School of Arts & Sciences and administered by the Documentary Film Program (DFP). Designed specifically for Wake Forest undergraduates from any major, this program enables students to obtain their bachelor's degree and a master's degree in just five years. Combining creative production with strategic thinking, the program equips students with professional video, editing, and digital storytelling skills while allowing them to explore the application of those skills within their academic field of interest. Whether a student's focus is education, political science, business, journalism, the arts, or another discipline, the 4+1 structure integrates their undergraduate training with advanced coursework in storytelling and communication. Students begin taking graduate-level courses during their senior year and formally matriculate into the graduate program in the summer following their undergraduate graduation. This timeline allows them to complete the MA by May of their fifth year. The program culminates in an experiential capstone project—such as a short film, strategic campaign, or immersive professional experience—developed in close collaboration with DFP faculty and a sponsoring professor from the student's undergraduate discipline.

Students must apply for admission at the beginning of the spring semester of their junior year. To be eligible, applicants must have a minimum GPA of 3.5 at the time of application and submit three letters of recommendation. One of these letters must be from the student's academic advisor, confirming that the student is well-positioned to complete the 4+1 degree based on their completed coursework and accumulated credit hours. The Graduate Record Examination (GRE) is not required, and the application fee is waived.

Requirements

Degree Requirements

To earn the MA in Content Creation & Strategic Storytelling through the 4+1 pathway, students must complete a total of 30 credit hours. The program combines graduate-level coursework in storytelling, filmmaking, and content strategy with electives in the student's academic area of study. A final capstone project brings together creative practice and disciplinary focus.

Senior Year (Undergraduate Status with Graduate Credit)

Fall Semester:

- Digital Storytelling Public Advocacy (3 credits, DFP)

Spring Semester:

- Elective I: Graduate Course in Area of Study (3 credits, Home Department)

Graduate Year (Post-Baccalaureate Enrollment)

Summer Session I:

- Social Media Marketing in the Creative Arts (3 credits, DFP)

Summer Session II:

- Introduction to Editing (1.5 credits, DFP)

Fall Semester:

- Documentary Storytelling I (3 credits, DFP)
- Cinematography & Sound (3 credits, DFP)
- Advanced Story Editing (3 credits, DFP)
- Capstone Project Prep (1.5 credits, DFP)

Spring Semester:

- Law & Ethics (3 credits, DFP)
- Elective II: Graduate Course in Area of Study (3 credits, Home Department)

Capstone Project (3 credits, DFP)

For additional degree requirements, see Requirements for Degrees.

Counseling, MDiv/MA

Program Co-Director *(Counseling)* Allison Forti
Program Co-Director *(Divinity)* Mark Jensen

Overview

Students in the dual degree program will spend the first two years of the four-year program in the Divinity School. The second two years of the dual degree program will be spent satisfying the requirements of the Master of Arts degree in the on-campus program.

Degree Requirements

MDIV Program

First Two Years. The School of Divinity's regular Program of Study requires 50 hours of required courses and 28 hours of general electives for a total of 78 hours. The program of study for dual degree students would include 47 hours of required courses (with the internship met in CPE) and a minimum of 6 hours of electives in the School of Divinity. The remaining elective credits for the MDiv are satisfied by CNS courses in the second two years.

MA Program

Second Two Years. The Department of Counseling's Program of Study requires 42 hours of Core Courses, 9 hours of Clinical Courses, and 9 hours in a Program Specialty Area for a total of 60 hours. The program of study for dual degree students would be the same as those students in the Counseling Program.

Upon successful completion of the counseling program, students will receive both the Master of Divinity and the Master of Arts degrees.

For additional degree requirements, see Requirements for Degrees.

Admissions

Admission to the dual degree program is a two-tiered process. Up to three students per year will be admitted. Applicants must be accepted for admission by both the Graduate School and the Divinity School. Applicants are required to submit a separate application to each school by January 15. Applications for the Counseling Program are submitted through the Graduate School of Arts and Sciences at http://graduate.wfu.edu. Applications for the Divinity School are submitted directly to the Divinity School at http://www.wfu.edu/divinity.

Education, MDiv/MAED

Program Director Debbie French

Overview

The School of Divinity and the Graduate School offers a dual degree that:

1. promotes interdisciplinary conversation between theological education, public education, and community engagement; and
2. provides students pathways for developing skills and acquiring competencies necessary for achieving excellence in careers where religious leadership and education intersect.

These degrees provide distinctive vocational perspectives and opportunities not available separately in the education or divinity degree programs.

The dual degree curriculum includes foundational requirements from both divinity and education. It is estimated that the time required to complete the dual degree is six semesters and two summer sessions. Integrative components include an education internship in a context approved by the Master of Arts in Education program in conversation with the School of Divinity's Art of Ministry (internship) director and a capstone requirement that either through research or an advanced internship encourages students to consider connections between the two fields of study. Advisors from both degree programs work with students to determine an elective course strategy that most effectively prepares each student to succeed as a religious leader who is also a public educator.

Typical Program Outline:

Year	Fall	Spring	Summer
One	Divinity	Divinity	
Two	Divinity	Divinity	Education (12 hrs)
Three	Education	Education	Education (6 hrs)
Four	Divinity		

Admissions

Candidates for the dual degree must apply both to the Graduate School of Arts and Sciences and the School of Divinity, following the admissions' requirements of the respective programs, and be accepted to each

program in order to pursue the dual degree. A joint committee consisting of faculty/staff representatives both from divinity and education will make final determinations about an applicant's suitability for the dual degree.

MD/PhD

Program Director Christopher Whitlow

Overview

An MD/PhD dual degree offers graduates outstanding opportunities in the new era of biomedical research of the 21st century. The invaluable perspective of an MD/PhD graduate positions the physician scientist as a crucial link in translating scientific research into improving human health and reducing disease.

With the increasing sophistication of research tools, MD's without extensive formal research training rarely have the depth of knowledge needed to progress rapidly as a research scientist. The increasing pace of research, the need for knowledge in specific techniques, and the competition in funding have made it more difficult for MD clinicians to succeed in a research-intensive career. Optimal training is provided by combining an MD with a PhD academic program.

The MD/PhD program, a combined effort between the School of Medicine and the Graduate School of Arts and Sciences, is an integrated program where neither the MD nor the PhD degree is compromised. The student gains the full perspective for identification and analysis of problems related to human health while receiving rigorous training in a basic or translational research discipline—training which provides the depth of knowledge of scientific logic and techniques for an effective, exciting, and successful career in medical research.

The program seeks outstanding students who have already shown aptitude and enthusiasm for research.

Structure of the Program

The duration of the program typically is seven years. During the summer before entry into medical school, beginning in early June, students attend an orientation program to introduce faculty and available research opportunities. An eight-week research rotation is conducted with a selected member of the participating graduate faculty. This research rotation (and subsequent ones, if needed) familiarize students with faculty and their fields of expertise; usually one of these faculty are chosen as the student's graduate (PhD) advisor.

Years One and Two. The first two academic years are spent as a medical student. Phase I (seven months) introduces core biochemical knowledge, including development and structure of the human body (gross, microscopic, embryological, and radiological anatomy) and basic cellular functions (biochemistry, molecular biology and genetics, immunology, introduction to pathology).

Phase II (months 8-20) includes courses in systems pathophysiology (physiology, pharmacology, microbiology and pathology), and a two-month period for a second rotation in a lab of the selected graduate program in the summer after the first year.

Medicine as a profession, clinical decision making, and epidemiology studies are included in both Phases I and II.

During these years, the student usually attends a graduate seminar course. The seminar meets once a week and provides a continuing in-depth introduction to the chosen graduate discipline in addition to social and intellectual contact with other graduate students and faculty.

If possible, the student chooses a graduate advisor by the end of Phase II of the medical curriculum. Otherwise, the summer after Phase II may be used for another laboratory rotation, prior to choosing an advisor.

At the beginning of year three, students will remain with their medical school class for a three month clinical experience. These three months are spent learning basic clinical skills on internal medicine rotations and introduce the students to the practice of medicine providing basic skills in completing the history and physical exam experience during the graduate school years in an out-patient clinic. These three months of training will also increase the flexibility for returning to medical school upon completion of the graduate degree. After completion of the three clinical months the students will then join the graduate school with the new cohort of graduate students.

Years Three through Five: During the graduate school years, the student participates in a monthly outpatient clinical experience. Students rotate at a clinic for the underserved, working with faculty and private practice physicians. Participation in this clinic not only helps to maintain clinical skills but gives the student experience with balancing research and clinical responsibilities.

The third year is spent taking advanced basic science courses and conducting research. Didactic coursework is intended to supplement the biomedical knowledge base built in the medical school curriculum. Program or departmental courses also provide a more discipline-specific focus and, therefore, depend on the chosen graduate program.

The duration of the dissertation research may vary but typically is completed in years three-to-five and, if needed, a portion of year six. The PhD dissertation is completed and defended prior to returning to clinical studies.

Years Six and Seven. The student completes eighteen months of required clinical rotations (Phase III of the clinical curriculum) which include internal medicine, surgery, pediatrics, obstetrics, women's health, neurology, psychiatry, radiology, anesthesiology, family and community medicine, and emergency medicine. Four months of elective time are spent in other clinical experiences or may be used for completion of graduate studies prior to returning to the medical curriculum. This part of the schedule is tailored to the individual student with the approval of the graduate advisor, MD/PhD program director, and the Associate Deans for medical education and student services.

Conferring of Degrees. The PhD degree is conferred in the semester in which all requirements for that degree are met. The MD degree shall be awarded upon completion of the program.

Participating Graduate Programs

- Track 3 - Biology
- Track 4 - Molecular and Cellular Biosciences:
  - Biochemistry and Molecular Biology
  - Cancer Biology
  - Microbiology and Immunology
  - Molecular Medicine and Translational Science
  - Molecular Genetics and Genomics
- Track 5 - Integrated Physiology and Pharmacology

- Track 6 - Neuroscience
- Track 7 - Biomedical Engineering

Mechanism of Application

Both the School of Medicine and the Graduate School evaluate the applicant's credentials. The MCAT is the required standardized test for all applicants.

Initial application is through the American Medical College Application Service (AMCAS). When the School of Medicine receives AMCAS applications, students are sent supplemental forms for application to the School of Medicine. The applicant should indicate interest in the combined MD/PhD program on the supplemental application. The School of Medicine supplemental packet requests an evaluation by the applicant's premedical advisory committee. For the MD/PhD program, the applicant should also include letters of evaluation specifically addressing his or her research experience and abilities.

This is a highly competitive, limited program. Students who matriculate receive tuition scholarships throughout the program. In addition to outstanding grades and MCAT scores, the applicant should provide evidence of enthusiasm and aptitude for research, with prior research experience beyond that of college courses. This is an important factor in evaluation of the application.

After the supplemental application packet, MCAT scores, and letter(s) of evaluation are received, the completed application is reviewed by the committees on admissions of the MD/PhD program. A small percentage of applicants are then asked to visit the University for interviews from October through March.

PhD/MBA

Program Director Dwayne Godwin

Overview

In addition to intensive doctoral training, the PhD/MBA program incorporates core knowledge of business and managerial skills to provide the student with a marketable, competitive advantage, whether the student finds employment in industry or academia. Graduates choosing to pursue a traditional tenure-track faculty position will have the managerial and business training to initiate and operate their own research laboratories and to collaborate more effectively with the private sector. Graduates choosing a non-traditional career path will be prepared to exercise their research training in management positions in the pharmaceutical industry, private foundations, government agencies, or university research and technology transfer offices.

Structure of the Program

The program is a synthesis of curricula from the Graduate School and the Evening MBA Program of the Wake Forest University School of Business, with specialized coursework and opportunities for industrial and business internships. The joint program is open to all PhD-granting programs across all Wake Forest campuses. It has taken students approximately 5 years to complete the joint program, depending on the nature of the graduate research undertaken in the home program. The first year of the curriculum provides students with a core base of knowledge in biomedical sciences and includes training in the core competencies of the home graduate program. At the same time students begin to be exposed to issues related to research and design, career development, and journal clubs. Laboratory rotations usually occur in this first year in accord with Program or Track requirements, depending on program and campus. The students typically begin their dissertation research during the second year. At the end of the second year and before beginning MBA coursework, the student is required to take and pass a qualifying exam that will admit him or her to candidacy for the PhD.

A student enrolling in the PhD/MBA program will have 5-6 semesters of evening MBA courses added to his or her graduate degree requirements. Opportunities for industrial projects and internships are possible after ascent to PhD candidacy and during the MBA coursework phase. The PhD and MBA degrees are awarded simultaneously at the completion of all requirements for both degrees.

Application Process

Admissions are administered through the Graduate School of Arts and Sciences. Students wishing to enroll in the program must apply to both programs and meet the respective admissions requirements of the Graduate School of Arts and Sciences and the Wake Forest University School of Business. Admission to the MBA portion of the program can occur separately after gaining admission to the home graduate program and after securing appropriate release from the home program for participation in the joint program (this is in the form of a letter from the thesis advisor cosigned by the program director). In addition to the application a copy of the letter should be submitted to Dr. Dwayne Godwin, Dean, Graduate School of Arts and Sciences and Director, PhD/MBA program. The Graduate Record Exam is accepted for admission to the MBA program. Prospective students should also submit a one-page statement of interest indicating future plans for use of the dual degree, official transcripts from each college or university attended, and three completed recommendation forms.

Before admission to the program, the applicants are required to complete a personal interview with the PhD/MBA program director and the Wake Forest University School of Business. After the interview phase, the top applicants may be offered admission to the joint program.

Sustainability, JD/MA

Program Director Eric Stottlemyer

Overview

The Sustainability Program and School of Law have designed an innovative dual degree program to provide students a pathway for succeeding in professional roles where legal scholarship and practice intersect with sustainability.

Students will expand their potential workforce networks, deepen their knowledge base, and cultivate leadership skills. Attorneys seeking to work in a sustainability related practice area will benefit greatly from foundational knowledge gained through coursework focusing on energy, environmental and sustainability related studies.

Degree Requirements

The dual degree requires completion of 78 hours of law coursework including the degree requirements prescribed by the Law School for graduation and 22 hours of coursework in the Sustainability program. The joint degrees are designed to be completed in six semesters and one full summer session.

MA in Sustainability Course Requirements

Code	Title	Hours
SUS 600	Communications Workshop	1
SUS 601	Professional and Leadership Skills	1
SUS 602	Scientific Literacy	1
SUS 603	Natural Capital Valuation and Ecosystem Services	1
SUS 701	Global Human Systems	3
SUS 702	Sustainable Organizational Management	3
SUS 703	Natural Science for Sustainability	3
SUS 704	Environmental Law and Policy *	3
SUS 705	Applied Sustainability 1	2
or SUS 706	Applied Sustainability: Creativity and Impact	
SUS 694	Internship	4
or SUS 791	Thesis Research	

In addition, you must complete at least 9 credit hours of the following sustainability-related law courses:

Code	Title	Hours
LAW 512	Environmental Law	2-3
LAW 414	Energy Law	2-3
LAW 443	Sustainable Corporations	2-3
LAW 656	International Environmental Law	2-3
LAW 530	Natural Resources Law	2
LAW 642	Animal Law	2
LAW 536	Land Use Regulation and Planning	2-3
LAW 641	Regulatory Law and Policy	3
LAW 367	Environmental Law and Policy Clinic I	4
SUS 704	Environmental Law and Policy **	3

* SUS 704 requirement may be fulfilled by taking 3 credit hours of sustainability-related law courses

** SUS 704 can count toward the nine sustainability-related law credits

For additional degree requirements, see Requirements for Degrees.

Admissions

Candidates for the dual degree program must apply to both the Graduate School of Arts and Sciences and the School of Law, following the admissions' requirements of the respective programs. Applicants must be accepted to each program in order to pursue the dual degree. A committee consisting of faculty and staff from both the School of Law and the Sustainability Graduate Program will make final determination about an applicant's suitability for the program.

Wake Forest students already enrolled in the JD program are encouraged to apply in the spring semester of their 1st year. Current students may apply after this time, but completion of the program will not follow the traditional three-year plan of study.

Sustainability, MDiv/MA

Program Director Eric Stottlemyer

Overview

This dual degree program acknowledges the growing demand for professionals in religious leadership who have the knowledge and the skills to lead communities to respond to critical ecological and other social issues. Congregations and other religiously affiliated organizations are increasingly interested in sustainability concerns and seek leaders who can guide their efforts. Knowledge from the biological, physical, chemical, and earth sciences is critical to working professionals who design and implement sustainability practices. The humanities and social sciences incorporate information about spirituality, religious beliefs, and an understanding and appreciation of our relationship to the natural world.

This degree is a collaborative project shared by the Graduate School of Arts and Sciences and the School of Divinity.

Degree Requirements

The MDiv/MA in Sustainability dual degree is designed to be 93 credit hours completed in seven semesters plus one full summer session based on full-time enrollment.

- 21 hours of required course work specific to the MA in Sustainability
- 13 hours of required course work shared by the two degree programs; these courses constitute the integrative foundation of the joint degree.

Code	Title	Hours
SUS 701	Global Human Systems	3
SUS 702	Sustainable Organizational Management	3
SUS 703	Natural Science for Sustainability	3
SUS 704	Environmental Law and Policy	3
SUS 705	Applied Sustainability 1	2
or SUS 706	Applied Sustainability: Creativity and Impact	
SUS 694	Internship	4
or SUS 791	Thesis Research	
Any Sustainability elective		3
MIN 602A & MIN 602B	Internship Reflection Seminar and Internship Reflection Seminar	3
or MIN 602C	Summer Internship Reflection Seminar	
MIN 612	Directed Reflection in Applied Sustainability	1
Elective coursework in either the School of Divinity or Sustainability Graduate Program		9
Total Hours		**34**

For additional degree requirements, see Requirements for Degrees.

Admissions

Candidates for the dual degree program must apply to both the Graduate School of Arts and Sciences and the School of Divinity, following the admissions' requirements of the respective programs. Applicants must be accepted to each program in order to pursue the dual degree. A committee consisting of faculty and staff from both the School of Divinity and the Sustainability Graduate Program will make final determination about an applicant's suitability for the program.

Certificates

- Addiction Counseling, Certificate
- Bioethics, Certificate
- Curriculum, Instruction, and Assessment, Certificate
- Data Science, Certificate
- Medieval and Early Modern Studies, Certificate
- Quantum Information Sciences, Certificate
- Structural and Computational Biophysics (SCB), Certificate
- Sustainability, Certificate

Addiction Counseling, Certificate

Overview

Overview

The Wake Forest Certificate in Addiction Counseling (CAC) is an 18-credit certificate that prepares students to work with clients and families impacted by problem substance use and substance use disorders (SUD). Beyond the standard curriculum, CAC-specific coursework addresses addiction-specific assessment, case conceptualization, treatment planning and counseling skills. Admission is limited to current full- and part-time WFU graduate Counseling students who are (or will be) on the Clinical Mental Health Counseling (CMHC) track.

Requirements

The CAC requires 6 credit hours in the two certificate-specific courses: CNS 776: Assessment and Treatment Planning in Addictions, CNS 777: Addiction Counseling Skills. These two courses are only offered online during the summer. Students must complete the required 6 credits of clinical internship at sites that specialize in the prevention and/or treatment of addiction/substance use disorders or where the majority of students' clinical activities and supervision will be dedicated to this area.

Bioethics, Certificate

(General, Biomedical Research Ethics, or Clinical Bioethics)

Overview

This certificate provides students with basic knowledge and skills that enable them to better address bioethics issues that arise in biomedical research, clinical practice, and health policy. The Graduate Certificate is a freestanding program of graduate study in which students attend the same classes as students in the Master of Arts (MA) in the Bioethics Graduate Program.

Admitted students may enroll in the general Graduate Certificate program or may specialize by enrolling in the Graduate Certificate in Biomedical Research Ethics or the Graduate Certificate in Clinical Bioethics. The specialized certificate options require courses within the general requirements described below. In their first semester of study, all Graduate Certificate students must enroll in at least one required course prior to or concurrently with taking any elective course.

Course Requirements

The Graduate Certificate requires 12 hours of Bioethics course work with an average grade of B or above. At least 9 credit hours must come from core courses in the MA in Bioethics program (BIE 702, 703, 704, 705, 706/707). The last 3 hours may come from remaining BIE courses or program approved non-BIE graduate level courses. There is no thesis requirement. All work must be completed within four years of the date of initial enrollment in the graduate program. Up to 3 hours of transfer credit may be considered in place of elective course work. Transfer credit acceptance is based on review and approval of grades, course syllabi, and other relevant information. The minimum GPA required for completion is 3.0.

The Graduate Certificate in Biomedical Research Ethics requires students to enroll in BIE 702: Biomedical Research Ethics for 3 of the 9 credit hours of required/core courses. The Graduate Certificate in Clinical Bioethics requires students to enroll in BIE 705: Clinical Ethics for 3 of the 9 credit hours of required courses. Students in the specialized certificate programs may utilize elective courses designed to provide supervised observational and experiential opportunities in relevant settings.

Curriculum, Instruction, and Assessment, Certificate

Program Director Debbie French

Overview

This program prepares graduate students in disciplines other than Education for teaching at any level. The program provides a solid grounding in educational curriculum, instruction, and assessment.

While this program does not qualify students for a public-school teaching license, it provides a base of knowledge of curriculum, instruction, and assessment. Teachers would be well#prepared to teach in settings which do not require a license, such as private or independent schools, or to enter alternative certifications programs.

Course Requirements

A total of fifteen credits, five three#hour courses, are required. The curriculum includes two required courses in (1) Learning and Cognitive Science, and (2) Educational Policy and Practice. The other three courses are selected from graduate courses in Education, which enables the students to focus on areas of interest. The minimum GPA required for completion is 3.0.

Data Science, Certificate

(Programs of Computer Science and Statistics)

Overview

The Wake Forest University Certificate in Data Science program seeks to train and mentor students to become well qualified scientists and researchers. The certificate provides training in algorithms for structured and unstructured datasets, as well as statistical modeling techniques for such datasets. Students will study the theory and application of databases, data processing, data mining, statistical modeling and statistical learning.

Students who successfully complete the program will receive a certificate in Data Science, as well as a degree in any other graduate programs in which they matriculate. The program is implemented by collaboration among the programs of Computer Science and Statistics at Wake Forest University. For currently enrolled Wake Forest Graduate students, following matriculation and at least one semester of coursework in a graduate program, students can apply for admission. Admission is initiated by meeting with one of the Co-Directors. The student will then

submit a letter of intent and a Wake Forest University graduate transcript to the admissions committee. The letter of intent should express the student's interest in the program, a proposed plan of study, and how the program meets the student's career and academic goals. Following favorable evaluation, applicants may be recommended for admission by the admissions committee, with final approval determined by the Graduate School. Students not enrolled in a Wake Forest graduate program may apply directly to the program.

Prior to admission, applicants must have completed coursework (or demonstrate sufficient background) in calculus, linear algebra, and introductory statistics through the level of STA 112, as well as computer programming and also a background course covering data structures, algorithms, and complexity (material equivalent to CSC 201). Gaps in student preparation should be discussed with the program Co-Directors. Students enrolled in the certificate program as well as another graduate program must complete all graduate degree requirements in the individual department to which they were admitted.

Requirements

Students must take 15 credits, with two courses selected from each of Areas A and B, and one elective. The Co-Directors are tasked with approving a student's plan of coursework. In particular, any courses from Areas A and B taken from outside a student's home department should not count towards both the certificate as well as their degree program.

Students completing a thesis related to Data Science may count up to three credits of research courses/independent study towards the Certificate, with approval from the DS Co-Directors. Graduate students who were previously Wake Forest University undergraduate students and took the 300-level equivalent of any courses in Area A or Area B are exempted from those course requirements, but still must complete a total of 15 credits at the 600 or 700 level by selecting additional electives.

Area A -- Statistical Modeling and Statistical Learning

Code	Title	Hours
Select two of the following:		
STA 612	Linear Models	3
STA 662	Multivariate Statistics	3
STA 663	Introduction to Statistical Learning	3

Area B -- Computational Data Science

Code	Title	Hours
Select two of the following:		
CSC 621	Database Management Systems	3
CSC 622	Data Management and Analytics	3
CSC 673	Data Mining	3
CSC 675	Neural Networks and Deep Learning	3
or CSC 674	Machine Learning	

Electives

One additional graduate elective selected from STA, an approved course from MTH, or a CSC course selected from the table below.

Code	Title	Hours
Select one of the following:		
Any CSC course listed in but not taken as part of fulfilling the Area B requirements		3
CSC 652	Numerical Linear Algebra	3
CSC 655	Introduction to Numerical Methods	3
CSC 646	Parallel Computation	3
CSC 647	GPU Programming	3
CSC 671	Artificial Intelligence	3
CSC 726	Parallel Algorithms	3

Students in the program have access to state-of-the-art equipment and facilities in multiple departments, including the DEAC Linux cluster (deac.wfu.edu (http://deac.wfu.edu)). The Interdisciplinary Graduate Certificate Program in Data Science began in 2020.

Faculty

Program Co-Directors William Turkett, Lucy D'Agostino McGowan
Professors Erin Fulp, Paúl Pauca, Robert Erhardt, Ken Berenhaut
Associate Professors Grey Ballard, Samuel Cho, Lucy D'Agostino McGowan, Emily Huang, Staci Hepler, Dan Beavers, Natalia Khuri, William Turkett
Associate Teaching Professor Nicole Datzell
Assistant Professors Collin Cadematori, Leo Cella, Aditya Devarakonda, Noah Gade, Sarah Lotspeich, Fan Yang, Ying Zhang
Assistant Teaching Professor Ciaran Evans, Natalie Mastin

Medieval and Early Modern Studies, Certificate

(Departments of English, Romance Languages, History, Politics, Philosophy, Music, Classics, Art History, German, Humanities, Art History)

Overview

This certificate is designed to allow students in English to broaden their knowledge of the medieval and early modern periods. The program provides pragmatic interdisciplinary coursework, training in the technical skills of medieval studies, linguistic preparation, and a variety of subject areas for specialization. The program offers students a competitive advantage in admission to doctoral programs by highlighting their strong foundational background in a number of fields as well as their proven ability to tackle challenging subjects. Students may enroll in the program by permission of the director upon admission or anytime during their first year.

Courses satisfying the certificate may overlap with program requirements but requires some coursework beyond that of the Master of Arts degree.

The certificate generally does not require more time to complete than most of the Master of Arts programs at Wake Forest. Students are strongly encouraged to apply for extramural fellowships to study one or more summers at international sites where a medieval studies curriculum is available; (For example, we have been aligned with the Summer School programs in Medieval and Environmental Studies at Magdalene College, Oxford for over 25 years [see the medieval and early modern studies minor (https://bulletin.wfu.edu/undergraduate/departments-programs/medieval-early-modern-studies/) in the Wake Forest University Undergraduate Bulletin for details]). Students in the program may apply

two of the courses taken for the Master of Arts degree toward the certificate program with approval of the director.

Activities and opportunities include the medieval studies workshop and lecture series, where talks are held with internal and visiting speakers; the essay contest in Medieval and Early Modern Studies that awards winners with funding to the annual International Congress of Medieval Studies at Western Michigan University; the Gordon A. Melson Graduate Student Award in Medieval Studies, specifically awarded to an outstanding graduate student to attend the International Congress on Medieval Studies at Western Michigan University; the St. Peter's medieval studies summer program at Magdalene College, Oxford; the medieval section of the department's library in the Archie Ammons English Department Faculty Lounge; and the establishment of an internship with the Medieval and Early Modern Studies Program Director.

Course Requirements

Students are required to take a minimum of 12 credit hours with a medieval or early modern focus; these courses should represent two different disciplinary fields in addition to that of the student's home department. In consultation with the program director, one or more of these additional courses may be taken as directed reading or as medieval or modern language courses in Latin, the romance languages, or German. The graduate thesis must have a medieval focus, and the MA thesis committee should have at least two participating departments represented. The minimum GPA required for completion is 3.0.

Faculty

Program Director Gale Sigal
Professors Gale Sigal, Herman Rapaport, Sol Miquel-Prendes, Monique O'Connell, Jefferson Holdridge
Associate Professors Olga Valbuena-Hanson, Chanchal Dadlani, Tina Boyer
Assistant Professors Amy Clark, Claudia Antonini, Emily Simpson
Visiting Assistant Professor Clara Wild, Cesar Gutierrez, Clara Wild, Arielle McKee
Emeritiae Gillian Overing, Ulrike Wiethaus, Stewart Carter

Quantum Information Sciences, Certificate

Requirements

Course work must include the following:

Code	Title	Hours
PHY 741	Quantum Mechanics	3
PHY 654	Introduction to Solid State Physics	3
PHY 746	Quantum Information Theory	3
Elective Courses and/or Research		6
Total Hours		**15**

For additional degree requirements, see Requirements for Degrees.

Structural and Computational Biophysics (SCB), Certificate

(*Programs of Biology, Chemistry, Computer Science, Mathematics, Molecular and Cellular Biosciences, Statistics and Physics*)

Overview

This certificate is designed to meet the need for scientists and educators with broad, interdisciplinary training in the quantitative biological, biochemical, and biomedical sciences. Students who successfully complete the certificate and degree requirements will receive a certificate in Structural and Computational Biophysics, as well as the degree in the program in which they matriculate. The program is a collaboration among the programs of Biology, Chemistry, Computer Science, Mathematics, Statistics, Molecular and Cellular Biosciences and Physics.

Following matriculation and at least one semester of coursework in a participating program (currently Biology, Chemistry, Computer Science, Mathematics and Statistics, Molecular and Cellular Biosciences and Physics), students can apply for admission to this certificate program. Admission is initiated by meeting with the SCB program director. The student will then submit a letter of intent and a graduate transcript to their department representative or to their program director. The letter of intent should express the students interest in the program, a proposed plan of study, and how the program meets the students career and academic goals. Following favorable evaluation, applicants may be recommended for admission by the program director, with final approval determined by the Graduate School.

Students have access to state-of-the-art equipment and facilities in multiple departments, including the Wake Forest Structural Biology Facility (csb.wfu.edu (http://csb.wfu.edu)), the DEAC Linux cluster (deac.wfu.edu (http://csb.wfu.edu)), and well-equipped research laboratories in biophysics, biochemistry, and biomedical engineering.

The interdisciplinary certificate program in Structural and Computational Biophysics began in 2005. Information on the program and links to faculty research interests can be accessed at scb.wfu.edu (https://scb.wfu.edu).

Course Requirements

Students will follow the curriculum for the Graduate Program in which they are seeking a degree. Masters degree students must be pursuing a thesis option. Fifteen hours in SCB-related courses including two hours in each of three areas below, one hour of discussion group for credit and two hours of journal club (the other six hours are in the student's area of specialty). Coursework is deliberately flexible, and courses will be approved by program director. Students will successfully complete a course in scientific ethics (GRD 713/ GRD 714 recommended). Student dissertation/thesis committee must have members from three different SCB associated departments. The dissertation/thesis must involve original, interdisciplinary research in the area of structural and computational biophysics or computational biology; broadly defined.

Courses of Instruction

Approved courses are listed below. Additional courses or substitutions may be approved by the program director. Course descriptions can be found under the department which administers the course.

SCB-Specific Courses

SCB 701. Structural and Computational Biophysics Journal Club. (1 h)

SCB 710. Research Topics in Structural and Computational Biophysics. (1 h)

Curriculum Area 1. Chemistry/Biochemistry

General prerequisites: Two semesters of undergraduate chemistry and one semester of undergraduate biochemistry or molecular biology. Additional prerequisites may be required by course.

Code	Title	Hours
BIO 672	Advanced Molecular Biology	3
BIO 775	Microscopy for the Biological Sciences	4
CHM 624	Medicinal Chemistry	3
CHM 641	Physical Chemistry	3
CHM 670	Biochemistry: Macromolecules and Metabolism	3
CHM 673	Biochemistry Protein and Nucleic Acid Structure and Function	3
CHM 676	Biophysical Chemistry	3
CHM 751	Biochemistry of Nucleic Acids	1.5-3
CHM 752	Protein Chemistry	1.5-3
CHM 753	Chemical Biology	3
CHM 755	Biomolecular Mass Spectrometry: Fundamentals and Applications	1.5-3
CHM 756	Biomolecular NMR	1.5
CHM 757	Macromolecular Crysallography	1.5

- Students may also enroll in MCB 700, MCB 701, or MCB 711.

Curriculum Area 2. Physics

General prerequisites: Two semesters of undergraduate physics. Additional prerequisites may be required by course.

Code	Title	Hours
PHY 607	Biophysics	3
PHY 620	Physics of Macromolecules	3
PHY 625	Biophysical Methods Lab	1.5
PHY 685	Bioinformatics	3

Curriculum Area 3. Computer Science/Mathematics/Statistics

General computer science prerequisites: Programming in a high-level language. Additional prerequisites may be required by course.

Code	Title	Hours
CSC 621	Database Management Systems	3
CSC 631	Software Engineering	3
CSC 646	Parallel Computation	3
CSC 652	Numerical Linear Algebra	3
CSC/MTH 655	Introduction to Numerical Methods	3
CSC 671	Artificial Intelligence	3
CSC 685	Bioinformatics	3
CSC 687	Computational Systems Biology	3
CSC 721	Theory of Algorithms	3
CSC/MTH 753	Nonlinear Optimization	3
CSC/MTH 754	Numerical Methods for Partial Differential Equations	3
CSC 775	Neural Networks	3
MTH 605	Introduction to Linear Algebra and Differential Equations	3
MTH 626	Numerical Linear Algebra	3
MTH 652	Partial Differential Equations	3
MTH 757	Stochastic Processes and Applications	3
PHY 635	Computational Physics	3
STA 611	Statistical Inference	3
STA 612	Linear Models	3
STA 652	Networks: Models and Analysis	3
STA 662	Multivariate Statistics	3
STA 663	Introduction to Statistical Learning	3

Faculty

Program Director Freddie R. Salsbury Jr
Professors Rebecca Alexander, Edward E. Allen, Ulrich Bierbach, Keith D. Bonin, Martin Guthold, Thomas J. Hollis, W. Todd Lowther, Daniel B. Kim-Shapiro, S. Bruce King, Jed C. Macosko, Gloria K. Muday, Paul Pauca, Leslie B. Poole, Freddie R. Salsbury Jr., Peter Santago
Associate Professors Adam Hall, Brian W. Tague, William H. Turkett Jr.
Assistant Professor Derek Parsonage

Sustainability, Certificate

Overview

Students are provided with exposure to sustainability issues in the natural sciences, social sciences, humanities, business management, law, and policy. Students will utilize our program as a mechanism for adding value to their professional endeavors while simultaneously satisfying the urgent societal need for highly knowledgeable leaders in the field of sustainability. The certificate can be obtained on a stand-alone basis or in conjunction with another graduate program. Students in the certificate program may transition to the Master of Arts degree. An application must be submitted, and admission approved.

Course Requirements

Students will complete the following for a total of 12 credit hours to earn the certificate.

Code	Title	Hours
SUS 701	Global Human Systems	3
SUS 702	Sustainable Organizational Management	3
SUS 703	Natural Science for Sustainability	3
SUS 704	Environmental Law and Policy	3
Total Hours		**12**

Faculty

Program Director Eric Stottlemyer
Professors Miles Silman, John Knox, Dick Schneider
Associate Professor David Phillips
Assistant Teaching Professor Leslie Straker
Professor of Practice Scott Schang
Affiliate Faculty Rebecca Dickson, Cassie Freund

Concentrations

- Women's, Gender, and Sexuality Studies Concentration

Women's, Gender, and Sexuality Studies Concentration

Director Wanda Balzano

Overview

This concentration will provide students the opportunity to study gender and sexuality from a variety of disciplinary perspectives in conjunction with their study toward a graduate degree. Interdisciplinary by nature, Women's, Gender, and Sexuality Studies courses primarily address the diversity of gendered experiences based on race, ethnicity, class, religion, nationality, and sexual orientation. The concentration is an appropriate option for students who wish to focus on gender and/or sexuality in their disciplinary field.

Applicants must declare their interest in the concentration to both the WGSS program director and the director of their own program of studies. The students must achieve a B or higher in the concentration and complete the major degree of study for it to be noted on the transcript. The WGSS program director will approve course substitutions when needed and will also certify completion of the concentration.

Requirements

Course Requirements: 12 hours

Code	Title	Hours
Required Core Courses		
WGS 622	Introduction to Women's and Gender, and Sexuality Studies	3
or WGS 617	Introduction to Sexuality Studies	
WGS 698	Theory and Practice of Women, Gender, and Sexuality Studies	3
Elective Courses		
Select 6 hours of WGS courses		6
Total Hours		**12**

Electives

Electives (6) are chosen from WGS courses which are cross listed in the home department and are selected with the assistance of the WGS advisor and program director.

If students have already taken any of the required courses in their undergraduate years, substitutions for electives are admitted, in consultation with the WGSS program director.

Additionally, students will be required to present their research at a conference, or at the WFU annual symposium on gender and sexuality, or at the WGSS colloquium for the S.P.E.A.K. series (Student Presentations on Experience, Arts, and Knowledge).

Courses

Women's, Gender, and Sexuality Studies (WGS)

WGS 600. The WGS Field Guide to Museums. (1.5-3 h)
This hands-on course consists of gender/sexuality-focused lectures, readings, workshops, digital storytelling, and guided visits of university and art galleries, museums, historical societies and homes, community centers, and other local institutions that have relevant artwork or archive materials, whether print or digital. Provides opportunities to develop expertise in interpretation of collections through a gender lens while considering the role of public education and creative thinking in community settings.

WGS 601. Feminist Political Thought. (3 h)
Examines major themes, concepts and theories in feminist political thought. Themes explored include schools of feminist thinking, feminism's diverse expressions over time, theories of the interlocking systems of oppressions, and the connection between theory and practice.

WGS 602. Studies in Gender and Literature. (3 h)
Addresses ways in which gender and literary practices intersect in various cultures and historical periods. Attention will be paid to the role of literature in formulating, subverting, or resisting gender norms. May be repeated for credit if topic differs.

WGS 603. Gender and Sexuality in Literary Adaptations. (1.5-3 h)
Focuses on understanding the relationship between written literature (novel, play, short story, poem) and its adaptation to another genre or medium (film, painting, video game, song, etc.) through the lens of gender and sexuality. It can also involve adapting the same literary work in the same genre or medium for different purposes, i.e. to work with a cast of differing gender or race, in a smaller or larger venue (or on the road), for a different demographic or ethnic group, or in a different geographical/historical setting. This course studies how adaptations enable us to rework literature and rethink attitudes about issues of gender, ethnicity, class, history, and identity.

WGS 604. Transgender History, Identity, and Politics. (3 h)
Explores the experiences of and responses to transgender, gender non-conforming, and intersex (TGI) people in nineteenth- and twentieth-century America. We will examine how scientific/medical authorities, legal authorities, and everyday people have understood and responded to various finds of gender non-conformity.

WGS 606. Queer Public Histories. (3 h)
This course explores how public history projects (oral histories, museums, archives, documentaries) document gay, lesbian, and queer communities in the U.S. Discusses how historical and contemporary LGBTQ stories have been collected and examines the various queer identities that merge through this process.

WGS 609. Gender, Humanities, and the Environment. (3 h)
Provides a framework for understanding how the Humanities can contribute to civic conversations about environmental change, examining in particular the role of women environmentalist and eco-feminist in constructing global environmental narratives.

WGS 610. Gender, Power, and Violence. (3 h)
A research-centered study of various issues related to violence, power, and gender in American society. Emphasizes sociological analysis of competing theoretical explanations of violence with respect to race, class, gender, religion, and sexual orientation.

WGS 617. Introduction to Sexuality Studies. (3 h)
Provides an interdisciplinary grounding in the foundations of queer culture and studies, with a critical interrogation of sex, gender, sexuality, pleasure, and embodiment in popular culture, literature, health, science, and politics.

WGS 618. Film Lab in Women's, Gender, and Sexuality Studies. (1.5-3 h)
Viewing, dissecting, and analyzing films. Fosters the skills to create complex cinematic analyses and explore feminist theoretical issues related to spectatorship.

WGS 619. Women Playwrights. (3 h)
Examination of selected plays and/or performance texts by women. Focus varies, for example, looking at works by contemporary American women or early women dramatists such as Hrosvitha, Sor Juana, and Aphra Behn.

WGS 621. Introduction to Women's, Gender, and Sexuality Studies. (3 h)
An interdisciplinary course that integrates materials from the humanities and the sciences, taught by WGS faculty representing at least two fields. Topics include critical methods and practical solutions, history and theory of women's gender, and sexuality studies, women in culture and society, and cross-cultural issues of gender, ethnicity, social class, disability, and sexual orientation.

WGS 622. Introduction to Women's and Gender, and Sexuality Studies. (3 h)
An interdisciplinary course that integrates materials from the humanities and the sciences, taught by WGS faculty representing the least two fields. Topics include critical methods and practical solutions, history and theory of women's gender, and sexuality studies, women in culture and society, and cross-cultural issues of gender, ethnicity, social class, disability, and sexual orientation.

WGS 623. Feminist, Womanist, and Mujerista Theologies: Constructive Perspectives on Christian Thought. (3 h)
Discourse featuring womanist and feminist theologies as "lived" and "living" religious orientations that shape ethical worldviews, earth communal landscapes, and experiences of spiritual life.

WGS 624. Queer Theologies. (1.5-3 h)
This seminar-style reading course surveys classic and new works in queer theology. Queer theology transgresses dominant constructions of gender identity and sexuality; and as such, it can be seen as an expression of the Christian gospel that subverts human understandings of life, community, and the divine. The course explores biblical and Christian theological perspectives on sexuality, social constructions of sexuality, and issues such as power, marriage equality, and sexual ethics.

WGS 625. Feminist Leadership Project. (1.5 h)
Explores the principles of feminist leadership to deepen self-awareness about personal leadership skills and gain tools for creating feminist social change. This highly interactive class welcomes students who are new to feminist thought/activism as well as those seeking to deepen their engagement with feminism. Satisfactory/Unsatisfactory.

WGS 626. Telling Women's Lives: Writing about Entrepreneurs, Activists, and Thought Leaders. (3 h)
This course will use an interdisciplinary approach to address fundamental issues of female leadership by examining recent developments in long- and short-form narratives about women (biography, essays, profiles) and employing journalistic tools to interview and write profiles of women entrepreneurs, activists, and thought leaders.

WGS 627. The Feminist Book Society. (1.5-3 h)
A reading course designed to introduce students to classic and contemporary feminist texts. Emphasis on close reading, discussion, and writing. May be repeated for credit if texts differ.

WGS 629. Feminist Anthroplogy. (3 h)
Examines cultural constructions of gender and sexuality from a cross-cultural perspective and the relationship between feminism and cultural rights activism through time. Emphasizes how varied forms of feminisms are constituted within diverse social, cultural, and economic systems. Students consider how feminists are negotiating positions at the intersection of cultural and human rights.

WGS 630. Gender and the Politics of Health. (3 h)
This course examines the intersections of gender, medicine, health, and illness, with a focus on the U.S. context. Topics include: reproduction, mental illness, breast cancer, heart disease, and HIV/AIDS, among others. We explore the following questions: How have women and men interacted differently with the field of medicine, as healers, patients, and subjects of medical research? How do social and cultural norms about gender influence the definition of illness categories? What role does medicine play in defining and enforcing the boundaries of what is considered socially acceptable in terms of gender? How does gender as social role affect health outcomes?.

WGS 632. Men, Masculinity, and Power. (3 h)
Introduces the burgeoning interdisciplinary field of masculinity studies. Students will explore the social, historical, and cultural constructions of masculinity and male roles (as fathers, sexual and romantic partners, and workers) and how these constructions differ according to race, class, sexuality, etc. In addition, the course will examine how norms about masculinity simultaneously empower men as a group and many individual men, while also disadvantaging any individual men and regulating the behavior of all men. Students will explore possibilities for challenging hegemonic forms of masculinity and for creating new types of masculinity.

WGS 633. Sexual Politics in the United States. (3 h)
This course explores the politics of sexuality in the United States. Drawing on feminist scholarship, queer theory, and lesbian, gay and transgender studies, we will explore different historical and theoretical approaches to thinking about issues of power and sexuality. We will discuss sexual identities and cultures, state regulation of sexuality, sexual commerce, and cultural representations of sexuality, among other topics. Throughout we will examine how other social categories such as race, class, gender, and disability intersect with the politics of sexuality.

WGS 640. Feminist Philosophy. (3 h)
Examines feminist approaches to philosophical theorizing. Topics may include feminist critiques of the scope and methods of mainstream philosophy, feminist approaches to ethics, epistemology and philosophy of language, and feminist conceptions of the self, sexuality, and moral agency.

WGS 645. Girls Gone Wild: A Century of Misbehavior. (3 h)
This course analyzes what made girls and women "bad" and "wild" in the twentieth-century United States, and how such judgments changed over time. This class engages closely with novels, short stories, movies, comics, podcasts, and an opera with an eye to what behaviors were considered appropriate, and how they interrelated with sexual attraction, with economics, and with love. We examine the relationship between being configured as a sexual object (a recipient of desire) and a sexual subject (a possessor of desire) and come to a critical understanding of how the "proper" and "improper" forms of both were constantly in flux. We ask how race, ethnicity, and queerness interacted with hegemonic concepts of beauty and desire, and whether "masculinity" and "femininity" are necessarily attached to men and women. We read theories of sex and gender, examine concepts of projection and male hegemony, and ask how men as well as women are shaped by rules of appropriate behavior.

WGS 646. Visual Narratives: Image, Sequence, Story. (3 h)
This class investigates the relationship of image, sequence, and story in typography, comics, woodcut novels, and photographic books, and films, as well as fiction and poetry wit unusual visual elements, and then asks how these various elements offer different visual and textual expressions of sexuality. Students will conduct formalist analyses and further investigate visual narrative through creative exercises with the goal of developing an aesthetic sensibility and a technical vocabulary that enable them to discuss visual narrative with precision. Please note that some visual narrative will include graphic scenes of sexuality.

WGS 647. Joan Didion/Edmund White: Personal/History. (3 h)
This course examines Didion and White, two of the most important American writers of the past fifty years. Both are known for their journalism as well as their fiction, and their interest in U.S. cultural and political history, especially in terms of gender and sexuality, permeates their novels. This course analyzes three works by each author, developing themes from motherhood, sexuality, imperialism, rebellion and AIDs.

WGS 649. Invert, Pervert, Bull Dagger, Queen: U.S. Queer Fiction in the 20th Century. (3 h)
This class explores the history of lesbians, gay men, bisexuals, the transgendered, and other queers through fiction by and about them written over the last century in the United States. We also consider biography, artifacts of popular culture, comics, drama, and film. Topics include the relationship between homosexual desire and queerness in a broad sense; LGBTQ children; biological and psychological understandings of sexual orientation; and how social construction informs sexual identity and desire.

WGS 650. Biocultural Perspectives on Women and Aging. (3 h)
Examines biological, socio-psychological, and cultural issues affecting older women.

WGS 651. Race and Ethnic Diversity in America. (3 h)
Different race and ethnic experiences are examined through an institutional approach that examines religion, work, gender, schooling, marriage patterns, and culture from a cross-cultural perspective. Grand theoretical schemes like the "melting pot" are critiqued for their relevance in an age of new cultural expectations among the many American ethnic groups.

WGS 658. Mothers and Daughters Literature and Theory. (3 h)
Examines literature and feminist theories on motherhood and the mother-daughter relationship. A cross-cultural perspective is taken.

WGS 662. Feminism and Theatre. (3 h)
Introduces the student to the intersection of theater and feminism and experience its interdisciplinary lineage and academic interventions. Students will learn and apply feminist theory which looks beyond the conventional theater for a continuum of performance that includes play, ritual, sports, everyday life and social roles, as well as performance art, global and intercultural performance. Engaging with various feminist theoretical approaches from radical and liberal feminism to intersectional and transnational feminism, students will be encouraged to critically examine race, class, gender, sexuality, ethnicity, and nationality expressed on and offstage. Through readings, discussions, lectures, research and creative assignments, indoor and outdoor classroom activities, and campus events, students will explore historical and socio-political factors entangled with representation, identification, and spectatorship, and strengthen their capacity to exercise feminist practice in theater and performance.

WGS 663. Gender and Sexuality in Contemporary Korea. (3 h)
This course will examine gender and sexuality in Korean TV, film, K-pop, protests, and everyday performances, focusing on diverse socio-political issues within and beyond the Korean Peninsula. Topics include: the evaluation of feminism, #metoo movement, LGBTQ cultures, sex work, aging, plastic surgery industry, postcolonial and post-Korean war conflicts, and transpacific affinities.

WGS 664. Women of Color, Feminism, and the Politics of Resistance in the US. (3 h)
Examines historical and contemporary issues and current events affecting the lives of African American, Asian American, Latina, and Native American women. Exploring major theoretical and practical viewpoints in women's studies scholarship, the course will reveal the importance of intersectionality between race, gender, sexuality, class, and/or ethnicity in the everyday lives of multicultural women. Through arts-based civic engagement projects and activities, this course will also encourage students to formulate their own language of resistance against multiple forms of oppression.

WGS 665. Transnational Asia and Asian American Feminism. (3 h)
This course will analyze historical, socio-political, and cultural events as well as contemporary issues structuring the lives of Asian American women and queer community. Students will learn intersectional and transnational feminist approaches to examine race, class, gender, sexuality, ethnicity, nationality, and kinship in Asian American art and activism.

WGS 671. Making Sense of the News through a Feminist Lens. (1-3 h)
Inquiry into news literacy from a feminist perspective, with the intention to identify gender bias and consider questions of empowerment, exclusion, consumerism, and how to navigate the digital landscape to distinguish verified, reliable news from propaganda.

WGS 677. Special Topics. (1.5-3 h)
Includes such a wide range of women's, gender, and sexuality studies topics as gender issues in the 21st century, critical approaches to gender issues, and the emergence of feminist thought. May be repeated for credit if topic differs.

WGS 680. Sexuality, Law, and Power. (3 h)
Explores a wide variety of issues related to sexual identity and orientation by looking at the ways in which law can constrict development as well as a catalyst for change. Examines how religion and popular morality shape the law, and are shaped by it.

WGS 681. Gender and the Law. (3 h)
This course will examine how the law affects women's lives in a number of contexts. The class will consider a number of different areas, including but not limited to employment, education, family responsibilities, violence against women, and other issues affecting women's bodies, including pornography and prostitution. The class will also review a number of feminist legal theories and issues relating to the intersection of gender with race and class.

WGS 683. Race, Gender, and the Courts. (3 h)
This course examines the impact of state and federal court cases upon the evolution of race and gender relations in the U.S. from 1789 to the present. Each case is placed within the political, economic and social historical context for the given time periods. Race includes Native Americans, African Americans, Asian Americans, and Latino Americans. This class will analyze government intervention, inaction, and creative interpretation.

WGS 688. South Asian Women: Religion, Culture and Politics. (3 h)
This course examines the intersection of religion, race and gender of South Asian women from a feminist and postcolonial perspective.

WGS 696. Independent Study. (1-3 h)
Independent projects in women's gender, and sexuality studies, which either continue study begun in regular courses or develop new areas of interest. By prearrangement. May be repeated for credit.

WGS 697. Public Engagement in Women's, Gender, and Sexuality Studies. (1.5-3 h)
This class provides an opportunity for students to engage in work and research that is shared with the broader public, either on campus or in a local community. A maximum of 3 hours may apply to the major or minor.

WGS 698. Theory and Practice of Women, Gender, and Sexuality Studies. (3 h)
Examines the major themes and terminology in Women, Gender, and Sexuality Studies, with focus on its diverse and multicultural expressions through time. Themes to be explored include schools of feminisms, interlocking systems of oppression and the connection between theory and practice.

WGS 699. Research Seminar in Women, Gender, and Sexuality Studies. (3 h)
A capstone, research-centered course in which students complete a significant research or creative project of their choosing situated within the field of Women's, Gender, and Sexuality Studies.

Courses A-Z

A

- Anthropology (ANT)
- Arabic (ARB)
- Art (ART)

B

- Bioethics (BIE)
- Biology (BIO)

C

- Chemistry (CHM)
- Communication (COM)
- Computer Science (CSC)
- Counseling (CNS)
- Creative Writing (CRW)

D

- Documentary Film Program (DOC)

E

- Education (EDU)
- English (ENG)

F

- French (FRH)

G

- Graduate (GRD)

H

- Health and Exercise Science (HES)
- Hindi-Urdu (HNU)
- History (HST)

L

- Liberal Arts Studies (LBS)
- Linguistics (LIN)

M

- Mathematics (MTH)

P

- Philosophy (PHI)
- Physics (PHY)
- Politics & International Affairs (POL)
- Psychology (PSY)

R

- Religion (REL)

S

- Spanish (SPA)
- Statistics (STA)
- Sustainability (SUS)

T

- Translation and Interpreting Studies (TIS)

W

- Women's, Gender, and Sexuality Studies (WGS)
- Writing (WRI)

Legend

Overview

The Graduate School offers several courses; some are required by the program while others serve as general electives. Please consult the program requirements to determine which courses are mandatory.

Course Legend

Semester hours of credit are shown by numerals immediately after the course title. The symbols P— and C— followed by course numbers or titles are used to show prerequisites and corequisites in the department. POI indicates permission of instructor is required. Because graduate study occurs at a level of complexity and specialization exceeding that of undergraduate education, the work required of graduate students in any course in which instruction is combined with undergraduate students will reflect this difference.

Anthropology (ANT)

ANT 601. Free Trade, Fair Trade: Independent Entrepreneurs in the Global Market. (3 h)
Field-based seminar compares the barriers to market participation experienced by independent entrepreneurs cross-culturally. Free trade policies are contrasted with fair trade practices to determine why so many independent producers have trouble succeeding in a globalizing world.

ANT 605. Museum Anthropology. (3 h)
Examines the historical, social, and ideological forces shaping the development of museums. Emphasizes the history of anthropology, the formation of anthropological collections, representation, and the intellectual and social challenges facing museums today.

ANT 607. Collections Management Practicum. (1.5 h)
The principles of collections management including artifact registration, cataloging, storage, and handling; conservation issues and practices; disaster planning and preparedness; and ethical issues are covered through lectures, readings, workshops, and hands-on use of the Museum's collections.

ANT 608. Archaeological Theory and Practice. (3 h)
Examination of a contemporary archaeological topic through participation in the formulation and implementation of an archaeological research design. Building knowledge relevant to contemporary society through understanding the interdependent nature of archaeological theory and method.

ANT 615. Artifact Analysis and Laboratory Methods in Archeology. (3 h)
Introduction to methods for determining the composition, age, manufacture, and use of different prehistoric and historic artifact types. Techniques for reconstruction of past natural environments from geological or ecofact samples. Exploration of data display tools including computer-based illustrations, GIS, and archeological photography.

ANT 618. Prehistory and Archaeology of Europe. (3 h)
Problem-based survey of the archaeological record of Europe. Complex interrelationships of material culture, economy, ideology, and social life from earliest peopling to the late Iron Age. Offered only in WFU Study Abroad programs.

ANT 625. Roots of Racism: Race and Ethnic Diversity in the U.S. (3 h)
Examines biological myths of race and race as a social construction; historical, economic, and political roots of inequalities; institutions and ideologies that buttress and challenge power relations; and implications of anthropological teaching and research for understanding social class and race discrimination in the U.S.

ANT 627. Global Justice and Human Rights in Latin America. (3 h)
Examines anthropological understandings of human rights, with emphasis on activism and rights-in-practice in Latin America. Explores how human rights are understood, mobilized, and reinterpreted in specific contexts. Investigates how anthropologists negotiate tensions between culture and rights, universalism and relativism, and advocacy and neutrality.

ANT 629. Feminist Anthroplogy. (3 h)
Examines cultural constructions of gender and sexuality from a cross-cultural perspective and the relationship between feminism and cultural rights activism through time. Emphasizes how varied forms of feminisms are constituted within diverse social, cultural, and economic systems. Students consider how feminists are negotiating positions at the intersection of cultural and human rights.

ANT 632. Anthropology of Gender. (3 h)
Focuses on the differences between sex, a biological category, and gender, its cultural counterpart. An anthropological perspective is used to understand both the human life cycle and the status of contemporary women and men worldwide. In section one, topics covered include evolution and biological development, sexuality and reproduction, parenting and life cycle changes. The second section includes a cross-cultural comparison examining roles, responsibilities and expectations, and how these interact with related issues of class and race in diverse locations, including Africa, South Dakota, China, India and the Amazon.

ANT 633. Language and Gender. (3 h)
Uses an anthropological perspective to examine relationships among language structure, language use, persons, and social categories.

ANT 634. Peoples and Cultures of South Asia. (3 h)
Survey of the peoples and cultures of the Indian subcontinent in the countries of Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka. Reviews major topics of interest to anthropologists, including prehistory, history and politics, religion, social organization, caste, gender, development and population.

ANT 635. Anthropology of Space and Place in the U.S.. (3-4 h)
Examines the spatial dimensions of culture by focusing on housing disparities in the U.S. Particular attention is paid to the cultural, gendered, economic, political, and regional contexts of housing policies and the impact policies have on children, families and communities. Course includes an optional Service-Learning community asset mapping assignment of a local Winston-Salem neighborhood.

ANT 636. Myth, Ritual, and Symbolism. (3 h)
Explores how people envision and manipulate the supernatural in cross-cultural perspective. Emphasizes functional apsects of religious beliefs and practices.

ANT 637. Economic Anthropology. (3 h)
Examines the relationship between culture and the economy and its implications for applied anthropology. The variable nature and meaning of economic behavior will be examined in societies ranging from non-industural to post-industrial. Discusses the impact of economic development programs, foreign aid and investment, technology transfer, and a variety of other economic aid programs.

ANT 639. Culture and Nature. (3 h)
Exploration of humanity's 'place' in the cosmo, focusing on different worldviews of nature and culture. Case studies from anthropology, archeology, and environmental science examine conceptions of technology, resources, environment, and ownership in the context of environmental change, 'natural' disasters, and resource scarcity.

ANT 640. Anthropological Theory. (3 h)
Study and evaluation of the major anthropological theories of humans and society. The relevance and significance of these theories to modern anthropology are discussed.

ANT 642. Development Wars: Applying Anthropology. (3 h)
Explores the application of anthropological concepts and methods in the understanding of contemporary problems stemming from cultural diversity, including competing social and economic development models and ideologies of terror. Emphasis on conflict and change in developing areas but also considers the urban experience.

ANT 647. Warfare and Violent Conflict. (3 h)
Seminar focusing on the causes and nature of warfare and violent group interaction across cultures and through time. Compares case studies from around the globe and of varying sociopolitical organization, past and present. Includes explorations of primate behavior, forms of warfare, and competing theoretical explanations for its existence and for particular occurrences.

ANT 650. Language, Indigeneity and Globalization. (3 h)
Taking a global case-study approach, this seminar explores the role language plays in contemporary identity formation and expression, from indigenous to transnational contexts. Addresses relationships among language and colonialism, postcolonialism, nationalism, cultural revitalization, standardization, social and economic inequality, boundary-formation, and processes of cultural inclusion and exclusion.

ANT 653. Language in Education. (3 h)
This seminar explores the role of language in educational contexts; includes the study of bilingual and bicultural education, second language education, cross-cultural education, and communication in the classroom. Service-learning component.

ANT 654. Field Methods in Linguistic Anthropology. (3 h)
Trains students in basic skills of collecting and analyzing linguistic data at the levels of phonetics-phonology, grammar, lexico-semantics, discourse, and sociocultural context. Students will learn about the research questions that drive linguistic fieldwork as well as the relevant methods, tools, and practical and ethical concerns.

ANT 655. Language and Culture. (3 h)
Covers theoretical and methodological approaches to the study of language and culture, including: semiotics, structuralism, ethnoscience, the ethnography of communication, and sociolinguitics. Topics include: liguistic relativity; grammar and worldview; lexicon and thought; language use and social inequality; language and gender; and other areas.

ANT 658. Native Peoples of North America. (3 h)
Ethnology and prehistory of the indigenous peoples and cultures of North America since European contact. Explores historic and modern cultures, social and political relationships with Euro Americans, and social justice.

ANT 660. Anthropology of Global Health. (3 h)
A critical introduction to the interdisciplinary field of global health, focusing on contributions from medical anthropology. Compares a diversity of health experiences and evaluates interventions across the globe. Explores how biocultural, political, and economic forces shape patterns of illness and disease with special attention to improving the health of the world's most vulnerable citizens.

ANT 661. Evolution of Human Behavior. (3 h)
The application of Darwinian principles to the study of human nature and culture. Considers the existence, origin, and manifestation of human behavioral universals and the theoretical and practical implications of individual study.

ANT 662. Medical Anthropology. (3 h)
The impact of Western medical practices and theory on non-Western cultures and anthropological contributions to the solution of world health problems.

ANT 663. Primate Behavior and Biology. (3 h)
Examines the evolution and adaptations of the order primates. Considers the different ways that ecology and evolution shape social behavior. A special emphasis on the lifeways of monkeys and apes.

ANT 664. Primate Evolutionary Biology. (3 h)
Examines the anatomy, evolution, and paleobiology of members of the order Primates. Emphasizes the fossil evidence for primate evolution. Major topics include: primate origins, prosimian and anthropoid adaptations, patterns in primate evolution, and the place of humans within the order Primates.

ANT 666. Human Evolution. (3 h)
The paleontological evidence for early human evolution, with an emph sis on the first five million years of bio-cultural evolution.

ANT 667. Human Biological Diversity. (3 h)
Seminar focusing on current issues in human biological diversity. Special emphasis on the nature of human variation, and the relationship between human biological diversity and human behavioral diversity. Students learn what is known about how modern human biological variation is patterned, and investigate how this variation is interpreted culturally.

ANT 668. Human Osteology. (3 h)
Survey of human skeletal anatomy and analysis, emphasizing archeological and anthropological applications.

ANT 670. Old World Prehistory. (3 h)
Survey of Old World prehistory, with particular attention to geological and climatological events affecting culture change.

ANT 674. North American Archaeology. (3 h)
The development of indigenous cultures in North America from the earliest arrival of people to European contact as outlined by archaeological research, with an emphasis on ecology and sociocultural processes.

ANT 677. Ancestors, Indians, Immigrants: A Southwest Cultural Tapestry. (3 h)
Exploration of factors that shaped the lives of people in the Southwest, with attention to Native American and Hispanic experience. From kivas to casinos, coyotes, to cartels, links archeological and prehispanic history to contemporary lifeways in the canyons, deserts, and cities of the U.S./ North Mexico.

ANT 678. Conservation Archeology. (1.5 h)
Study of the laws, regulations, policies, programs, and political processes used to conserve prehistoric and historic cultural resources.

ANT 680. Anthropological Statistics. (3 h)
Basic statistics. Emphasizing application in anthropological research.

ANT 681. Field Program in Anthropological Archaeology. (3 h)
Integrated training in archaeological field methods and analytical techniques for researching human prehistory. Students learn archeological survey, mapping, excavation, recording techniques and artifact and ecofact recovery and analysis.

ANT 682. Field Program in Anthropological Archaeology. (3 h)
Integrated training in archaeological field methods and analytical techniques for researching human prehistory. Students learn archeological survey, mapping, excavation, recording techniques and artifact and ecofact recovery and analysis.

ANT 683. Field Program in Cultural Anthropology. (3 h)
Comparative study of culture and training in ethnographic and cultural analysis carried out in the field.

ANT 684. Field Program in Cultural Anthropology. (3 h)
Comparative study of culture and training in ethnographic and cultural analysis carried out in the field.

ANT 685. Special Problems Seminar. (3 h)
Intensive investigation of current scientific research within the discipline, concentrating on problems of contemporary interest.

ANT 686. Special Problems Seminar. (3 h)
Intensive investigation of current scientific research within the discipline, concentrating on problems of contemporary interest.

ANT 687. Ethnographic Research Methods. (3 h)
Designed to familiarize students with ethnographic research methods and their application. Considers the epistemological, ethical, political, and psychological aspects of research. Laboratory experience and data analysis.

ANT 698. Individual Study. (1-3 h)
Intensive examination of an individually designed body of information pertaining to religion and/or culture, carried out under supervision of appropriate faculty member.

ANT 785. Directed Research and Reading. (1-3 h)
Research and reading course, including field component, designed to meet the needs of individual students and resulting in a professional-quality paper and/or presentation. May be repeated for a maximum of 6 hours. P-POI.

Arabic (ARB)

ARB 611. Elementary Arabic I. (3 h)
The first part of a two-semester course designed for student with no knowledge of the language. Focuses on developing proficiency in reading, writing, listening, and speaking skills in Modern Standard Arabic. Introduction to Arabic script and basic grammar, with oral and written drills and reading of simple texts.

ARB 612. Elementary Arabic II. (3 h)
The second semester of a two-semester course designed for students with no or very limited knowledge of the language. Mastery of Arabic sound and script is assumed. Building of vocabulary and grammar through oral and written drills and reading of simple texts. Focus is on developing proficiency in reading, writing, listening, and speaking skills in Modern Standard Arabic. P-ARB 611.

ARB 653. Intermediate Arabic I. (4 h)
Review of grammar and focus on the acquisition of more complex grammatical structures, vocabulary building, and expansion of reading, writing, listening, and speaking skills in Modern Standard Arabic. P-ARB 612.

ARB 701. Intermediate Arabic II. (3 h)
Further building of vocabulary and grammar and expansion of reading, writing, listening, and speaking skills in Modern Standard Arabic. P-ARB 653.

ARB 730. Upper Intermediate Arabic I. (3 h)
With an emphasis on speaking and writing, this course will develop students' oral and written proficiency on an upper intermediate level of fluency. P-ARB 701.

ARB 731. Upper Intermediate Arabic II. (3 h)
A continuation of ARB 730. P-ARB 730.

Art (ART)

ART 600. Introduction to Filmmaking. (4 h)
Introduces historical, aesthetic, and technical principles of contemporary filmmaking in a fine art context. Students will work in groups to produce an experimental film and work individually to create a video that focuses on a personal story.

ART 614. Filmmaking: Site Specific. (4 h)
A historical, aesthetic, and technical exploration of contemporary filmmaking in a fine art context. Students will produce multi-channel video projects that interact with a physical space.

ART 624. Filmmaking: Cyberspace. (4 h)
A historical, aesthetic, and technical exploration of contemporary filmmaking in a fine art context. Students will produce multi-channel video projects that interact with cyberspace.

ART 628. Filmmaking: Theatre Works. (4 h)
A historical, aesthetic, and technical exploration of contemporary filmmaking in a fine art context. Students will produce single-channel video projects for theatre viewing.

ART 685. Global Contemporary Art. (3 h)

ART 696. Art History Seminar. (3 h)
Offered by members of the faculty or visiting faculty on topics of their choice. a. Ancient Art b. Medieval Art c. Renaissance Art d. Baroque Art k. Film e. Modern Art f. Contemporary Art g. American Art h. Modern Architecture i. American Architecture j. Global Art and Architecture l. Architecture and Urbanism m. Museums n. Special Topics.

ART 697. Advanced Topics in Studio Art. (3 h)
Focus on selected studio projects, critical readings, and discussions on topics selected by members of department faculty.

Bioethics (BIE)

BIE 619. Concepts of Health and Disease. (2-3 h)
Concepts of health and disease and shape discussions in bioethics and health policy. This course examines and critically evaluates competing conceptions of health and disease. The implications of adopting different understandings of health and disease for bioethics and health policy will be explored. Permission of Instructor required (POI)

BIE 690. Special Topics. (1-3 h)
Study of bioethics topics not covered in the regular curriculum. Topics may be drawn from any theory or content area in the field of bioethics. May be repeated for a maximum of 6 hours. Permission of instructor required (POI).

BIE 701. Historical Foundations of Bioethics. (2-3 h)
This elective explores the origins of bioethics thought, through examination of core concepts in philosophy, moral theory, social and cultural studies and law and policy. Topics may include, for instance the ancient Greeks, Confucius, and key religious teaching on health, the civil rights movement; the history of scientific medicine; and the legal conceptualization of medical practice. This course expands and extends students' knowledge of the contemporary history of bioethics as incorporated into various aspects of their required courses. Permission of instructor required (POI)

BIE 702. Biomedical Research Ethics. (3 h)
A historical and conceptual survey of ethical, regulatory, and policy issues in biomedical research. Emphasis will be place on research involving human subjects. Master of Arts students are required to take any 2 of the following 3 courses: BIE 702, 704, or 705. Permission of instructor required (POI)

BIE 703. Bioethics Theory. (3 h)
An investigation of the main theoretical approaches to contemporary bioethics and their philosophical foundations. Each approach will be examined critically and students will explore how each approach informs analysis of contemporary issues in bioethics. Permission of Instructor required (POI)

BIE 704. Public Policy Medicine Justice. (3 h)
An examination of the organization of medicine and biomedical science in the United States today. The relationships between scientific and medical institutions and the implementation of public policies will be critically analyzed in light of the requirements of the principle of justice. Topics include conflicts of interest, broadly understood, within and between institutional and professional actors; the regulation of medical practice; access to health care; and the balance between the public good and market forces. Master of Arts students are required to successfully complete any 2 of the following 3 courses: BIE 702, 704, or 705. Permission of Instructor required (POI)

BIE 705. Clinical Ethics. (3 h)
This course will focus on 'ethics at the bedside' and will make extensive use of case studies. The course begins with sessions on the role of ethics in health care, the theoretical tools of bioethics, and the relationships among law, culture, and clinical ethics. The course reviews the moral foundations of therapeutic relationships, and concludes with examining moral issues encountered in health care at the beginning and at the end of life. Master of Arts students are required to successfully complete any 2 of the following 3 courses: BIE 702, 704, or 705. Permission of Instructor required (POI)

BIE 706. Learning and Doing Bioethics. (3 h)
A seminar on bioethics topics of interest featuring Wake Forest University and invited external faculty, with additional student presentations. Participants engage with presenters and scholarly literature on a variety of aspects of bioethics, including, but not limited to, the scholarly and professional practice of bioethics, the role of empirical scholarship in bioethics and related disciplines, the relationship of bioethics to advocacy and policy, and bioethics communication and mediation. Permission of Instructor required (POI)

BIE 707. Learning and Doing Bioethics. (3 h)
A seminar on bioethics topics of interest featuring Wake Forest University and invited external faculty, with additional student presentations. Participants engage with presenters and scholarly literature on a variety of aspects of bioethics, including, but not limited to, the scholarly and professional practice of bioethics, the role of empirical scholarship in bioethics and related disciplines, the relationship of bioethics to advocacy and policy, and bioethics communication and mediation. Permission of Instructor required (POI)

BIE 708. Research Methods. (2 h)
An introduction to the methods, concepts and tools used in quantitative and qualitative empirical research in bioethics. Students will develop skills in the design, conduct, interpretation, and evaluation of bioethics research. Permission of Instructor required (POI)

BIE 711. Current Topics in Clinical and Biomedical Research Ethics. (2-3 h)
An in-depth critical examination of selected topics of current interest in clinical and research ethics. Topics are identified by staff and students. Examples of pertinent topics include human pluripotent stem cell research; assisted-reproduction; research without consent; the sale of human organs; pandemic and biodefense preparedness; synthetic body parts and transhumanism; genetic enhancement; regenerative medicine and biogerontology. May be repeated for credit up to a maximum of 6 hours. Permission of Instructor required (POI)

BIE 713. Medical Liability and Treatment Relationships. (2-3 h)
An examination of the relationships between law and medicine, including the legal regulation of medical practice, concepts of medical malpractice, informed consent, confidentiality and privacy, and institutional liability. The ethical implications of the intersection of law and medicine will be critically analyzed. This course is cross listed as LAW 524. Permission of instructor required (POI)

BIE 715. Bioethics and Religion. (2-3 h)
This course explores fundamental themes, methods, and issues in religious bioethics. It seeks to determine the ways that religious approaches offer distinctive, complementary or overlapping perspectives with secular approaches. Specific topics will include assisted reproductive technologies, family planning and abortion, genetic therapy and enhancement, withholding life-sustaining treatment, suicide and euthanasia and justice issues in the allocation of health care resources. The course will combine lectures and discussions with analysis of cases. Permission of Instructor required (POI)

BIE 721. Research Independent Study. (1-3 h)
Students may work with a faculty member on a project of mutual interest. May be repeated for credit up to a maximum of 6 hours. Permission of Instructor required (POI)

BIE 722. Research Independent Study. (1-3 h)
Students may work with a faculty member on a project of mutual interest. May be repeated for credit up to a maximum of 6 hours. Permission of Instructor required (POI)

BIE 725. Health Care Law and Policy. (2-3 h)
This course examines the public policy and legal dimensions of the financing and regulation of health care delivery. Its focus is on how medical institutions (hospitals, insurers, HMOs) are structured and regulated, and how these institutions relate to their physicians and patients. Ongoing debate over health care reform is a main focus. The dominant theme is how law shapes and responds to the rapid economic and structural changes that are taking place in the health care sector. This course is cross-listed as LAW 525. Permission of Instructor required (POI)

BIE 731. Bioethics at Work: The IRB. (1-3 h)
Provides students with the opportunity to experience and understand human research oversight by attending Institutional Review Board (IRB) meetings, reviewing submitted protocols, and considering the ethical issues arising therein. Students assigned to a single IRB for a single semester will receive 1 credit. They will attend monthly meetings, meet periodically with course faculty and staff, and meet with IRB senior staff at the beginning and end of the semester. Students are also required to maintain and submit a journal of commentary on meetings and protocols and the ethical issues arising therein and an end of semester paper. Initial enrollment must be concurrent with enrollment in BIE 702: Biomedical Research Ethics. Additional credits may be earned by students who attend the meetings of more than one IRB or who continue attendance during the summer terms and/or in the fall semester. Course may be repeated up to a maximum of 3 hours. Co-requisite - BIE 702. Permission of Instructor required (POI)

BIE 733. Bioethics at Work: The Clinical Context. (1-3 h)
This course is designed to introduce students to central clinical ethics activities in health care facilities, including ethics consultation, ethics policy development and review, and continuing education in bioethics. In addition to weekly seminar classes, students will attend meetings of the Wake Forest Baptist Medical Center Clinical Ethics Committee and its standing subcommittees and continuing education conferences in bioethics. Students will meet with a variety of health care professionals to learn about their contributions to clinical ethics, will observe the process of clinical ethics consultation at WFBMC, and will study and practice ethics consultation skills. P-BIE 705. Permission of Instructor required (POI)

BIE 737. Genetics and Bioethics. (3 h)
An exploration of some of the ethical issues generated by the acquisition and application of knowledge about the human genome. Topics include eugenics, confidentiality, gene therapy, genetic testing of minors, genetic testing of adults, and ownership of genetic information. Permission of Instructor required (POI)

BIE 739. Neuroethics. (3 h)
This course explores some of the major philosophical and ethical issues that arise with the advancement in neuroscience research and neurology case. The course is divided into two areas of neuroethics: (1) the ethics of neuroscience and (2) the neuroscience of ethics. The ethics of neuroscience investigates the ethical implications of the application of neurotechnology for individuals and society, and the neuroscience of ethics attempts to answer traditional ethical questions through neuroscience. In the first half of the course, we will examine some ethical issues (e.g. mind reading, memory manipulation, BCI, AI, and cognitive enhancement) that arise in the applied and clinical contexts of neurotechnology and neurological disease. In the second half, we will consider the ethical, legal, and philosophical implications (e,g. free will, consciousness, personal identity, and criminal law) of neuroscientific discoveries and claims. This course is cross-listed in the Divinity School (THS 739). Permission of instructor required (POI)

BIE 741. Narrative and Bioethics. (3 h)
This team-taught course provides bioethics students with an overview of the different ways in which narratives of diverse types are instrumental to bioethics thinking. Four to six faculty will teach individual course units of 2-3 sessions, addressing topics including but not limited to: illness narratives; bioethics in fiction and film; performable case studies addressing bioethics issues; the voice of the medical case presentation; narrative reading and narrative writing; bioethics in the news; and the ethics of "thick description." Involvement of multiple faculty enables critical reflection on narrative from a variety of disciplinary perspectives common to bioethics. Permission of Instructor required (POI)

BIE 757. Biotechnology Law & Policy. (2-3 h)
This course surveys a range of legal and public policy topics in biotechnology, such as: FDA regulation of drugs and devices, regulation of medical research, products liability, insurance coverage of pharmaceuticals, intellectual property, and genetics. This course is cross-listed with the School of Law (LAW 657). Permission of Instructor required (POI)

BIE 790. Biotechnology and Ethics. (3 h)
With the convergence of medicine, nanotechnology, computer science, molecular biology, genetic engineering, and business, biotechnologies are emerging not only as an important provider of life-saving and life-enhancing treatments but also a fast-growing and very profitable industry. This course explores some of the major ethical issues related to the current and proposed uses of biotechnologies with particular attention to the reasons and arguments that are often used to support various views on the use of biotechnology. This course is cross listed in the Divinity School. Permission of Instructor required (POI)

BIE 791. Thesis Research. (1-6 h)
Research directed toward fufilling the thesis requirement. May be repeated for up to a total of 6 credits. P-POI.

BIE 792. Thesis Research. (1-6 h)
Research directed toward fufilling the thesis requirement. May be repeated for up to a total of 6 credits. P-POI.

BIE 795. Capstone Project. (1-4 h)
Work towards completing a capstone project. P- at least nine BIE credits or at least six credits of core courses (BIE 702, 703, 704, 705, 706/707), unless otherwise approved. Permission on Instructor required (POI)

Biology (BIO)

BIO 601. Topics in Biology. (1-4 h)

BIO 602. Topics in Biology. (1-4 h)
Seminar and/or lecture courses in selected topics, some involving laboratory instruction. May be repeated for credit.

BIO 603. Topics in Biology. (1-4 h)
Seminar and/or lecture courses in selected topics, some involving laboratory instruction. May be repeated for credit.

BIO 604. Topics in Biology. (1-4 h)
Seminar and/or lecture courses in selected topics, some involving laboratory instruction. May be repeated for credit.

BIO 605. Topics in Biology. (1-4 h)
Seminar and/or lecture courses in selected topics, some involving laboratory instruction. May be repeated for credit.

BIO 607. Biophysics. (3 h)
Introduction to the structure, dynamic behavior, and function of DNA and proteins, and a survey of membrane biophysics. The physical principles of structure determination by X-ray, NMR, and optical methods are emphasized.

BIO 608. Biomechanics. (3 h)
Analyzes the relationship between organismal form and function using principles from physics and engineering. Solid and fluid mechanics are employed to study design in living systems.

BIO 608L. Biomechanics Lab. (1 h)
Laboratory study of biomechanics. P or C-BIO 608.

BIO 609. Comparative Anatomy. (4 h)
Study of the vertebrate body from an evolutionary, functional, and development perspective. Labs emphasize structure and function, primarily through the dissection of representative vertebrates.

BIO 610. Community Ecology and Global Change. (4 h)
An advanced ecology course covering mechanisms that determine the dynamics and distribution of plant and animal assemblages and their responses to and roles in global change. Lectures focus on ecological principles and theory. Lab includes local field trips and discussion of the primary literature. Weekend field trips to Outer Banks and mountains.

BIO 611. Ecology and Conservation Biology of Coral Reefs. (4 h)
In-depth study of the various biotic and abiotic components that come together to structure ecosystem function and biodiversity at all spatial scales in one of Earth's most productive and diverse environments, yet one most threatened by human use and climate change. Lab component is a one-week field trip over Spring Break.

BIO 613. Herpetology. (4 h)
Lecture course on the biology of reptiles and amphibians, emphasizing the unique morphological, physiological, and behavorial adaptations of both groups, and their evolutionary histories and relationships. Two local field trips are planned.

BIO 614. Evolution. (3 h)
Study of the evolutionary analysis of biological change in populations, lineages, and the history of Earth. Explores reconstruction of evolutionary histories, adaptation, complexity, and biodiversity through primary literature.

BIO 614L. Evolution Lab. (1 h)
Introduces evolutionary analytic methods and interpretation of trait and molecular data through practical tutorials. P or C-BIO 614.

BIO 615. Population Genetics. (3 h)
Study of the amount and distribution of genetic variation in populations of organisms, and of how processes such as mutation, recombination, and selection affect genetic variation. Lectures present both an introduction to theoretical studies and discussion of molecular and phenotypic variation in natural populations.

BIO 615L. Population Genetics Lab. (1 h)
Uses computer modeling and simulation, and experiments using populations of fruit flies and other model organisms as appropriate. P or C-BIO 615.

BIO 616. Biology of Birds. (4 h)
Lecture plus lab course emphasizing ecological and evolutionary influences on the physiology, behavior, diversity, and population biology of birds, and case studies in conservation biology.

BIO 617. Plant Physiology and Development. (3 h)
Examines the growth, development, and physiological processes of plants. The control of these processes is examined on genetic, biochemical, and whole plant levels.

BIO 617L. Plant Physiology and Development Lab. (1 h)
Consists of structured experiments and an independently designed research project. P or C-BIO 617.

BIO 619. Biology of Soils. (3 h)
A survey of soil structure and biodiversity, with a detailed study of ecological interactions within soil communities and the impact of the soil biota on soil formation, nutrient cycling, and bioremediation within pristine, managed, and damaged soils.

BIO 619L. Biology of Soils Lab. (1 h)
Laboratory study of physical, chemical, and biological methods for analyzing the soil habitat. P or C-BIO 619.

BIO 623. Animal Behavior. (3 h)
Survey of laboratory and field research on animal behavior.

BIO 623L. Animal Behavior Lab. (1 h)
Laboratory study of animal behavior. P or C-BIO 623L.

BIO 624. Hormones and Behavior. (3 h)
Exploration of the mechanisms of hormonal influences on behavior.

BIO 627. Mycology: Biology of Fungi. (4 h)
Introduces fungi, their evolution and natural taxonomy; cell and molecular biology; genetics, mating and development; primary and secondary biochemistry; and their interactions with other organisms and the environment. Lab introduces culturing, microscopic and molecular techniques.

BIO 630. Land and Natural-Resources Management. (3 h)
Provides a fundamental understanding of land and resource management. The major focus is on federal oversight and policies but state, local, non-profit, and international aspects are included.

BIO 632. Microbiology. (4 h)
Structure, function, and taxonomy of microorganisms with emphasis on bacteria. Topics include microbial ecology, industrial microbiology, and medical microbiology. Lab emphasizes microbial diversity through characterizations of isolates from nature.

BIO 634. Parasitology. (4 h)
Survey of protozoan, helminth, and arthropod parasites with a focus on cellular biology, life cycles, host-parasite relationships, and public health implications. Laboratory emphasizes microscropy-based techniques for examining parasite morphology and intracellular structures.

BIO 636. Development. (3 h)
A study of the molecular, cellular, and anatomical aspects of embryonic development of invertebrate and vertebrate organisms.

BIO 636L. Development Lab. (1 h)
Laboratory study of the molecular, cellular, and anatomical aspects of embryonic development of invertebrate and vertebrate animals. P or C-BIO 636.

BIO 639. Animal Cognition. (3 h)
A survey of learning, reasoning and social cognition in animals, with an emphasis on species other than widely-used models such as rodents or primates. Classes are initially mostly lecture, and then mostly discussion of empirical studies from the primary literature.

BIO 640. Ecology. (4 h)
Interrelationships among living systems and their environments, structure and dynamics of major ecosystem types, contemporary problems in ecology.

BIO 641. Marine Biology. (3 h)
Introduction to the physical, chemical, and biological parameters affecting the distribution of marine organisms.

BIO 641L. Marine Biology Lab. (1 h)
Marine biology lab. P or C-BIO 641.

BIO 642. Oceanography. (4 h)
Introduces the geological, physical, chemical, and biological processes that govern the global oceans and their role in climate change. Lab focus is on tools and research questions pertinent to the field of biological oceanography.

BIO 646. Neurobiology. (3 h)
Introduces the structure and function of the nervous system including the neural basis of behavior.

BIO 646L. Neurobiology Lab. (1 h)
Laboratory emphasizing electrophysiological techniques with experiments from the cellular to the behavioral level. Students will design and complete their own projects. P or C-BIO 646.

BIO 648. Physiological Plant Ecology. (3 h)
Provides a fundamental understanding of how plants have adapted to the stresses of their habits, particularly in harsh or extreme environments such as deserts, the alpine, the arctic tundra, and tropical rain forests.

BIO 648L. Physiological Plant Ecology Lab. (1 h)
Physiological plant ecology lab. P or C-BIO 648.

BIO 649. Tropical Biodiversity of the Amazon and Andes. (4 h)
Intensive field course in tropical biodiversity focusing on ecosystems, natural resource management, and conversation. Students will travel to major tropical biomes in the vast tropical wildernesses of Andean and Amazonian Peru. Lectures emphasize the basic ecological principles important in each ecosystem. Field-based labs focus on student-designed projects. Offered in the summer only. POI required.

BIO 652. Developmental Neuroscience. (4 h)
Examines the development of neural structures and the plasticity of the mature nervous system. Laboratory covers the basics of embryology, immunocytochemistry, and primary neuron culture.

BIO 653. Functional Neuroanatomy. (3 h)
An introduction to the gross and cellular anatomical organization of the vertebrate central nervous system. Attention is given to relating structure to function, the anatomical basis of neuropathologies, and modern approaches in neuroanatomy and imaging.

BIO 656. Ecology and Resource Management of Southeast Australia. (4 h)
Intensive field-oriented course focusing on ecosystems, natural resource management and enviromental conservation of southeastern Australia. Students travel to major biomes including sub-tropical rainforests, coral reefs, and the Australian urban environment. Labs are field-based with some consisting of study-designed field projects. Taught only in summers in Australia.

BIO 660. Metabolic Diseases. (3 h)
Explores genetic and biochemical pathways in the context of inborn errors of metabolism.

BIO 662. Immunology. (3 h)
Study of the components and protective mechanisms of the human immune system, including innate and acquired immunity.

BIO 663. Sensory Biology. (3 h)
Lecture course that examines a variety of sensory systems. Emphasis is on sensory physiology, although other aspects of sensory systems, e.g. molecular biology and anatomy, are also covered.

BIO 663L. Sensory Biology Lab. (1 h)
Laboratory emphasizing electrophysiological and behavioral techniques to examine sensory systems. Students will design and complete their own projects. P or C-BIO 663.

BIO 665. Biology of the Cell. (3 h)
Lecture and lab course on recent advances in cell biology. Lectures emphasize analysis and interpretation of experimental data in the primary literature, focusing on topics such as the large scale architecture of the cell, targeting of macromolecules, cell-cell communication, cell signaling, and the control of cell division. The labs introduce basic techniques in cell biology and leads to an independent project.

BIO 665L. Biology of the Cell Lab. (1 h)
Laboratory course introducing basic techniques in cell biology, leading to an independent project. P or C-BIO 665.

BIO 667. Virology. (3 h)
Designed to introduce students to viruses, viral/host interactions, pathogenicity, methods of control and their use in molecular biology, including gene therapy.

BIO 669. Cancer Biology. (3 h)
Analysis of molecular and cellular mechanisms that transform normal cells, trigger abnormal proliferation, and lead to tumor formation. Emphasis is on the biological basis of cancer, with some exploration of clinical and social consequences.

BIO 670. Biochemistry: Macromolecules and Metabolism. (3 h)

BIO 670L. Biochemistry Lab. (1 h)
Overview of biochemical approaches to study structure and function of macromolecules. Cannot receive credit for both BiO 670L and 671L. P or C-BIO 670.

BIO 671L. Advanced Biochemistry Lab. (1 h)
Emphasizes approaches for insolation and analysis of enzymes. Cannot receive credit for both BIO 670L and 671L. P or C-BIO 671.

BIO 672. Advanced Molecular Biology. (3 h)
Presents molecular mechanisms by which stored genetic information is expressed including the mechanisms for and regulation of gene expression, protein synthesis, and genome editing. Emphasizes analysis and interpretation of experimental data from the primary literature.

BIO 672L. Advanced Molecular Biology Lab. (1 h)
Introduces modern methods of molecular biology to analyze and manipulate expression of genes and function of gene products. P or C-BIO 672.

BIO 674. Neuropharmacology. (3 h)
An introduction to how pharmacological agents affect cellular and molecular functions in the nervous system of normal and disease states. Lecture and case studies will be used to examine topics including drugs targeting mood and emotion, memory and dementia, and movement disorders. Drugs of abuse and the neurological basis of addiction will also be evaluated.

BIO 679. Introduction to Geographic Information Systems (GIS). (4 h)
Lecture and laboratory course that introduces the concepts and uses of GIS as a mapping and analytical tool. Lectures cover the history of GIS, GIS data structures and sources of data, map projections, GIS tools, applications, and resources. Exercises include example of GIS applications in environmental modeling, socio-demographic change and site suitability analyses.

BIO 680. Biostatistics. (3 h)
Introduction to inferential methods in biology. Focuses on recognizing, quantifying, and communicating uncertainty in biological data. Topics include summarizing data, making predictions, and testing hypotheses. Special emphasis on communicating statistics to scientific and general audiences.

BIO 681. Epigenetics. (3 h)
Studies the molecular mechanisms for inheritance of genome modifications. Uses primary literature to explore the environmental and developmental signals that influence epigenetic controls of gene expression and disease.

BIO 681L. Epigenetics Lab. (1 h)
Provides hands-on experiences with genome editing and molecular genetics to address the function and expression of genes. P or C-BIO 681.

BIO 682. Molecular Signaling. (3 h)
Examines the molecular and biochemical mechanisms by which hormones, neurotransmitters, and other signaling molecules act to change growth, development, and physiological and behavioral responses of organisms with a focus on discussion of primary literature.

BIO 683. Genomics. (3 h)
Examines the architecture, expression, and evolution of genomes. Uses current primary literature to examine the functional and evolutionary dynamics of genomes and the modern analytic techniques used to investigate genome-wide phenomena.

BIO 683L. Genomics Lab. (1 h)
Introduces analytic methods and interpretation of genome wide data through practical tutorials. P or C-BIO 683.

BIO 685. Bioinformatics. (3 h)
Introduction to bioinformatics and computing techniques essential to current biomedical research. Primary focus is gene and protein sequence and protein structure databases, and algorithms for sequence and structure analysis. Emphasizes interdisciplinary interaction and communication. Also listed as CSC 685 and PHY 685.

BIO 686. Genetics and African Diaspora. (3 h)
Study of modern human population divergence from a genomic perspective, focusing on the role of parasites in driving evolutionary adaptations. Explores the intersection of genetic diversity, health and disease in humans of the African diaspora.

BIO 687. Computational Systems Biology. (3 h)
Introduction of concepts and development of skills for comprehension of systems biology problems, including both biological and computational aspects. Topics may include genome-wide transcriptomic analysis, protein interaction networks, large-scale proteomics experiments, and computational approaches for modeling, storing, and analyzing the resulting data sets. Emphasizes interdisciplinary interaction and communication.

BIO 688. Methods in Molecular Genetics. (4 h)
Hybrid lecture/laboratory course gives students a hands-on introduction to a diverse array of techniques commonly used in molecular genetics laboratories.

BIO 701. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 702. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 703. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 704. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 705. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 706. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 707. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester.

BIO 708. Topics in Biology. (1-4 h)
Seminar courses in selected topics, some involving laboratory instruction. At least one offered each semester. Staff.

BIO 711. Directed Study in Biology. (1 h)
Reading and/or laboratory problems carried out under and by permission of a faculty member.

BIO 712. Directed Study in Biology. (1 h)
Reading and/or laboratory problems carried out under and by permission of a faculty member.

BIO 715. Foundations of Physiology. (1-4 h)
Covers classical and current topics and techniques in comparative physiology. Format varies from seminar to a full laboratory course.

BIO 716. Signal Transduction. (2 h)
Focuses on the mechanisms of inter- and intra-cellular communications. Topics range from receptors to signaling molecules to physiological responses. Largely based on the primary literature and requires student presentation of primary research articles.

BIO 717. Developmental Mechanism. (2 h)
Seminar course examining the molecular, biochemical, and cellular mechanisms of animal and/or plant development. Relevant topics selected from the current literature are discussed in lecture and presentation formats.

BIO 718. Gene Expression. (2 h)
Seminar covers gene expression in eukaryotic and prokaryotic eystems. Topics range from transcription to translation to other aspects of gene regulation. Emphasis is on the experimental basis of understanding the mechanisms of gene expression. Students present, in seminar format, appropriate papers from literature. All students participate in discussion and evaluation of presentations.

BIO 720. Integrative Biology I. (3 h)
Inquiry into the fundamentals of scientific thought and practice in the biological sciences. Course will emphasize key biological theories and contemporary techniques in the context of current literature. Each semester will be based on three thematic areas chosen by a committee of faculty and students to encompass a breadth of areas of biological knowledge and integrate biological subdisciplines.

BIO 721. Integrative Biology II. (3 h)
Inquiry into the fundamentals of scientific thought and practice in the biological sciences. Course will emphasize key biological theories and contemporary techniques in the context of current literature. Each semester will be based on three thematic areas chosen by a committee of faculty and students to encompass a breadth of areas of biological knowledge and integrate biological subdisciplines.

BIO 725. Plant Genetics. (1-2 h)
Covers various aspects of plant genetics in a seminar format. Topics range from classical Mendelian genetics to genomics and bioinformatics, depending on the interests of the students. Students present the results, conclusions, and significance of appropriate papers from the literature. All students participate in discussion and evaluation of presentation.

BIO 726. Plant Physiology. (1-2 h)
Covers various aspects of plant physiology and hormones in a seminar format. Topics range from auxin transport to properties of light within the leaf. Students present the results, conclusions, and significance of appropriate papers from the literature. All students participate in discussion and evaluation of presentations.

BIO 727. Plant Evolution. (1-2 h)
Covers various aspects of plant evolution in a seminar format. Topics range from problems in phylogeny reconstruction and patterns of diversity to major evolutionary innovations in various plant groups. Students present the results, conclusions, and significance of appropriate papers from the literature. All students participate in discussion and evaluation of presentations.

BIO 728. Plant Ecology. (1-2 h)
Covers various aspects of plant ecology in a seminar format. Topics vary depending on graduate student interest. Students present the results, conclusions, and significance of appropriate papers from the literature. All students participate in discussion and evaluation of presentations.

BIO 735. Foundations of Evolutionary Genetics. (2 h)
Inquiry into the fundamental concepts in genetic evolution through discussion of foundational primary literature. Topics explored include population genetic processes, speciation and extinction.

BIO 740. Physiological Ecolgy. (4 h)
Introduction to evolutionary/ecological physiology, with emphasis on the interactions between organisms and major abiotic factors of the environment including water balance-hydration, gaseous exchange-respiration, temperature tolerance-thermal physiology.

BIO 757. Techniques in Mathematical Biology. (3 h)
Offers students a framework for understanding the use of mathematics in both biological theory and empirical research. Emphasis is on practical applications of mathematical techniques, and learning by doing. A central goal is to give students tools to use in their own research. Topics covered include continuous and discrete population models, matrix models, stochastic models, life-history theory, and fitting models for data. Mathematical skills are taught and refreshed, but knowledge of basic calculus is required.

BIO 767. Foundations of Ecology. (3 h)
A graduate seminar focusing on understanding the seminal developments in the field of ecology and then tracing their intellectual impacts on the modern literature.

BIO 775. Microscopy for the Biological Sciences. (4 h)
An introduction to the various types of light, confocal, and electron microscopy. Students will learn technical and theoretical aspects of microscopy, methods of sample preparation, digital image acquisition and analysis and the preparation of publicaion quality images. The course will emphasize practical applications of microscopy, microscopy experimental design, and hands-on use of microscopes and digital imaging systems. Students will be expected to design and conduct a microscopy project and present their results to the class. Additionally, students will be expected to participate in class discussions regarding newly emerging microscopy techniques in various biological disciplines.

BIO 778. Advanced Ecology. (4 h)
Covers current research in the field of ecology with a focus at the community level. Experimental design, data analysis, and interpretation are emphasized.

BIO 781. Statistical Models and Data in R. (4 h)
Provides an introduction to statistical modeling and data management in the R computer language. The course objectives are to introduce student to: (i) methodologies for the design and analysis of ecological and organismal experiments, (ii) programming with an emphasis on good coding and data management habits, and (iii) producing figures and reproducible workflows for publication.

BIO 783. Teaching Skills and Instructional Development. (3 h)
Introduction to teaching college-level science courses. Emphasis is on: defining and achieving realistic course goals; mechanics of selecting, developing and refining topics for lecture or laboratory; effective presentation strategies; and creating an active learning environment. Students develop a teaching portfolio containing course syllabi, lecture outlines, and student-ready laboratory materials. Format combines didactic lectures, individual projects, and group discussions and critiques. Course meets for two, 2-hour periods each week.

BIO 785. Teacher-Scholar Professional Development I. (1 h)
Training in professional skills for early-career biological scientists through interactive discussion and exercises. Topics include scientific ethics and professional practices, scientific publishing, and scientific communication.

BIO 786. Teacher-Scholar Professional Development II. (1 h)
Training in professional skills for early-career biological scientists through interactive discussion and exercises. Topics include grant preparation and submission, professional bias and discrimination in the sciences, career paths, and job interviewing.

BIO 789. Research Seminar. (1 h)
Introduction to scientific presentation skills through active participation in scientific seminars and symposiums, discussion, and exercises. May be repeated for credit.

BIO 791. Thesis Research I. (1-9 h)

BIO 792. Thesis Research II. (1-9 h)

BIO 891. Dissertation Research I. (1-9 h)

BIO 892. Dissertation Research II. (1-9 h)

Chemistry (CHM)

CHM 621. Intermediate Organic Chemistry. (3 h)
Survey of advanced topics in organic chemistry including stereochemistry, conformational analysis, reaction mechanisms, organometallic chemistry and asymmetric synthesis.

CHM 623. Organic Analysis. (4 h)
The systematic identification of organic compounds.

CHM 624. Medicinal Chemistry. (3 h)
This course is an introduction to drug targets, mechanism, design, and synthesis. Topics of study include the review of biomolecular structure and function; druggable/targetable enzymes and signaling networks; the replisome- and transcriptome as targets; molecular and cellular pharmacology, molecular mechansim of action at the target level; drug metabolism and pharmacokinetics/pharmacodynamics. A significant portion of the course will be devoted to drug discovery, which includes design, SAR, optimization, synthetic methodologies, computer-assisted drug design; QSAR; prodrugs and 'bench-to-bedside', approaches.

CHM 625. Organic Synthesis. (4 h)
Reagents for and design of synthetic routes to organic molecules.

CHM 626. Organic Synthesis. (4 h)
Reagents for and design of synthetic routes to organic molecules.

CHM 634. Chemical Analysis. (3-4 h)
Theoretical and practical applications of modern methods of chemical analysis. C-CHM 641.

CHM 641. Physical Chemistry. (3-4 h)
Fundamentals of physical chemistry.

CHM 642. Physical Chemistry. (3-4 h)
Fundamentals of physical chemistry.

CHM 644. Physical Chemistry. (3-4 h)
Fundamentals of physical chemistry.

CHM 648. Electronic Structure Theory and Computational Chemistry. (3 h)
Introduction to quantum mechanical foundation of electronic structure theory and its application to problems in computational chemistry.

CHM 651. Special Topics in Biochemistry. (3 h)
Fundamentals of biochemistry, with particular emphasis on mechanistic analysis of metabolic pathways, enzymatic activity, and drug action.

CHM 656. Chemical Spectroscopy. (1.5 h)
Fundamental aspects of the theory and application of chemical spectroscopy, as found in the areas of analytical, inorganic, organic, and physical chemistry. Emphasis varies. Seven week courses. P-CHM 642 or 644, 661 or POI. May be repeated for credit.

CHM 657. Chemical Spectroscopy. (1.5 h)
Fundamental aspects of the theory and application of chemical spectroscopy, as found in the areas of analytical, inorganic, organic, and physical chemistry. Emphasis varies. Seven week courses. P-CHM 642 or 644, 661 or POI. May be repeated for credit.

CHM 661. Inorganic Chemistry. (3-4 h)
Principles and reactions of inorganic chemistry.

CHM 662. Nanochemistry in Energy and Medicine. (3 h)
New optoelectronic science and technologies, often involving nanotechnologies, photochemistry, and laser are revolutionizing many fields for solar energy conversion has inspired many researchers across different chemical, physical and engineering disciplines. Implementation of new laser-based optical techniques, photochemistry, and nanotechnology concepts have enabled dramatic progress in biomedical science where their potential is still developing rapidly. The goal of this course is to familiarize students with advanced topics in nanomaterials science, nanosynthesis, photochemistry, energy conversion, optoelectronics, and biomedical photonics. In this course nanomaterials structures, nanodevices, and time-resolved (fs-ms) photochemical processes involved in energy conversion and biomedical applications will be discussed. The energy and optoelectronic materials sections cover a broad range of different systems including organic, inorganic molecular materials, polymers, and semiconductors, applied in energy conversion and optoelectronics. The photochemical processes in these optoelectronic systems will be described. This includes light-driven optical, electronic, and chemical processes in a broad range of materials such as organic molecular materials, metal-organic dyes, polymers and semiconductors, that govern the behavior of optoelectronic and photovoltaic devices. Practical applications, device schemes, different generations, and recent progress in the field will be overviewed. The use of ultrafast laser techniques for the photochemical understanding of optoelectronic materials and interfaces will be covered. The application of nanomaterials and laser spectroscopy techniques in biomedical imaging (biomedical photonics) will be discussed. This includes nanodevices such as biosensors, drug delivery/release systems, for biomedical applications. The laser biomedical imaging techniques and optoelectronic approaches for clinically monitoring of early disease states and molecular diagnostics will be discussed.

CHM 664. Materials Chemistry. (3 h)
A survey of inorganic-, organic-, bio-, and nano-materials, including hybrid materials and applications.

CHM 664L. Materials Chemistry Lab. (1 h)
Synthesis of inorganic and organic based materials and their characterization. Lab-four hours.

CHM 666. Chemistry and Physics of Solid State Materials. (3 h)
Design, synthesis, structure, chemical and physical properties, and the application of solid state materials.

CHM 670. Biochemistry: Macromolecules and Metabolism. (3 h)

CHM 673. Biochemistry Protein and Nucleic Acid Structure and Function. (3 h)
Special topics in biochemistry including catalytic mechanisms of enzymes and ribozymes, use of sequence and structure databases, and molecular basis of disease and drug action. P-CHM 670 or POI.

CHM 676. Biophysical Chemistry. (3 h)
Introduction to a variety of technologies (e.g. thermochemistry, electrochemistry, spectrometry, and spectroscopy) for determining physical properties of biomolecules. From these properties, the biological function can be more readily understood and leveraged for medical gain. In addition to problem sets, students will have opportunities to hone science communication skills through a writing assignment and oral presentation. P-CHM 670 or POI.

CHM 681. Chemistry Seminar and Literature. (0.5 h)
Discussions of contemporary research and introduction to the chemical literature and acquisition of chemical information. May be repeated for credit. Pass/Fail only.

CHM 682. Chemistry Seminar and Literature. (0.5 h)
Discussions of contemporary research and introduction to the chemical literature and acquisition of chemical information. May be repeated for credit. Pass/Fail only.

CHM 701. Advanced Physical Chemistry. (3 h)
An accelerated survey of classical and statistical thermodynamics, chemical kinetics, and quantum chemistry.

CHM 711. Directed Study in Chemistry. (1-2 h)
Reading and/or lab problems carried out under supervision of a faculty member. P-Permission of graduate committee. May be repeated for credit if topic varies.

CHM 712. Directed Study in Chemistry. (1-2 h)
Reading and/or lab problems carried out under supervision of a faculty member. P-Permission of graduate committee. May be repeated for credit if topic varies.

CHM 721. Advanced Organic Chemistry. (3 h)
An accelerated survey of organic reactions and mechanisms.

CHM 722. Physical Organic Chemistry. (3 h)
Physical methods for determining structure-activity correlations and reaction.

CHM 723. Transition-Metal Organic Chemistry. (3 h)
Introduction to principles of bonding in organometallic chemistry and organometallic reaction mechanisms. Uses of transition-metal complexes in organic synthesis.

CHM 724. Organic Synthesis. (3 h)
Modern principles of organic synthesis and retrosynthetic analysis. Stereoselective synthesis of complex natural products.

CHM 725. Structure Identification in Organic Chemistry. (3 h)
Theory and use of spectroscopic techniques for structural identification of organic compounds.

CHM 726. Reactive Intermediates. (3 h)
Mechanistic and preparative photochemistry. Structure and chemistry of excited states, free radicals, carbenes, and selected ions.

CHM 735. Spectrochemical Analysis. (3 h)
Principles of atomic and molecular spectrometric methods; discussion of instrumentation, methodology, and applications.

CHM 736. Chemical Separations. (3 h)
Theory and practice of modern separation methods with emphasis on gas and liquid chromatographic techniques.

CHM 737. Electrochemical Processes. (3 h)
Principles of electrochemical methods, ionic solutions, and electrochemical kinetics.

CHM 738. Statistics for Analytical Chemistry. (3 h)
Practical investigation of the statistical procedures employed in modern analytical chemistry.

CHM 739. Special Topics in Analytical Chemistry. (3 h)
The study of topical fields of research in analytical chemistry, with a focus on one or more specialties, such as ICP-MS; fluorescence, LIBS; Raman spectroscopy; nanoparticles in analysis; biosensors; or others. May be repeated for credit if course content differs.

CHM 740. Drug Discovery, Design, and Development - Molecules to Medicines. (3 h)
Conducted as a combination of lectures, reading assignments, and student-led discussions. Examines drug discovery and development pathways from target and lead compound identification through metabolic and toxicology studies, clinical trials, FDA approval, and marketing. Regulatory processes, intellectual property, and ethical issues are also considered. Taught by WFU faculty from both the Reynolda and Bowman Gray campuses and colleagues in the pharmaceutical and biotechnology industries, students work in teams to present case studies on the discovery, development, and marketing of recently approved pharmaceuticals. Also listed as BAMB 740. P-Organic chemistry and biochemistry.

CHM 745. Statistical Thermodynamics. (3 h)
The application of statistical mechanics to chemistry to understand and predict the thermodynamic properties.

CHM 746. Chemical Kinetics. (3 h)
Kinetics and mechanisms of chemical reactions; theories of reaction rates.

CHM 747. Self-Organization in Nonequilibrium Chemistry. (3 h)
Study of the phenomena of self-organization, such oscillations, multistability, propagating waves, and formation of spatial patterns. Kinetic systems with autocatalysis will be studied using bifurcation theory and other methods of non-linear systems.

CHM 751. Biochemistry of Nucleic Acids. (1.5-3 h)
Survey of the structure, reactivity, and catalytic properties of RNA and DNA, including modern experimental techniques.

CHM 752. Protein Chemistry. (1.5-3 h)
Advanced survey of protein biochemistry with an emphasis on structural families, enzyme catalytic mechanisms, expression and purification methods, and biophysical and structural experimental techniques.

CHM 753. Chemical Biology. (3 h)
Survey of the origins and emerging frontiers of chemical biology, with a focus on the impact of chemical methods on our understanding of biology. Topics include protein design, chemical genetics, and methods in genomics and proteomics research.

CHM 754. Integrated Protein Design. (3 h)
Explores proteins from the ground up, emphasizing chemical principles of protein folding and stability.Integrates structural biology with chemical biology tools and modern computational design approaches. Students critically evaluate primary literature, lead discussions, and complete a capstone design project developing a novel protein concept.

CHM 755. Biomolecular Mass Spectrometry: Fundamentals and Applications. (1.5-3 h)
Designed for graduate and advanced undergraduates focusing on the principles of mass spectrometry and use in the anaylsis of small molecules, peptides, proteins, and nucleic acids. Covers sample preparation, data acquistion and interpretation, database searching, and quantification of molecules using a variety of techniques.

CHM 756. Biomolecular NMR. (1.5 h)
This is a one half-semester course designed for graduate and advanced undergraduates focusing on NMR of small oligonucleotides and proteins. The course will cover sample preparation, data acquisition and processing as well as generating solution structures from NMR data. A student should have command of 1D acquisition and processing as well as experience with 2D acquisition and processing before taking this class. All computational exercises will involve some familiarity with UNIX operating system. POI.

CHM 757. Macromolecular Crysallography. (1.5 h)
This is a one-half semester course designed for graduate and advanced undergraduates focusing on structural characterization of macromolecules utilizing x-ray crystallography. The course will cover sample preparation, diffraction theory, data acquisition and processing as well as structure solution and refinement techniques. P-CHM 356/656 highly recommended.

CHM 761. Chemistry of the Main Group Elements. (3 h)
Principles of bonding, structure, spectroscopy, and reactivity of compounds of the main group elements. Synthesis and applications of organometallic compounds of the main group.

CHM 762. Coordination Chemistry. (3 h)
Theory, structure, properties, and selected reaction mechanisms of transition metal complexes. Design and synthesis of ligands and their applications in bioinorganic chemistry.

CHM 764. Chemical Applications of Group Theory and Symmetry. (3 h)
Symmetry, group theory, bonding, and spectroscopy. Applications to structure, stereoisomers, multicenter bonding and symmetry-controlled reactions.

CHM 765. Bioinorganic Chemistry. (3 h)
The inorganic chemistry of life. a) Metals in biocatalysis: elucidation of structure and function of metalloenzymes by various spectroscopic and molecular biology methods; biomimetic ligands; synthetic models of active sites. b) Metals and toxicity. c) Inorganic compounds in therapy and diagnosis.

CHM 771. Quantum Chemistry. (3 h)
The quantum theory and its application to the structure, properties, and interactions of atoms and molecules. Theoretical and computational approaches.

CHM 791. Thesis Research I. (1-9 h)

CHM 792. Thesis Research II. (1-9 h)

CHM 829. Tutorial in Organic Chemistry. (3 h)

CHM 830. Heterocyclic Chemistry. (3 h)
Survey of the major groups of heterocyclic compounds. Modern applications of heterocycles.

CHM 831. Principles of Chemical Carcinogenesis. (3 h)
Fundamental chemistry of carcinogenesis. Survey of the chemistry and structure of carinogenic compounds. Defense and chemotherapeutics.

CHM 832. Theoretical Organic Chemistry. (3 h)
Molecular orbital treatment of structure and reactivity of organic molecules with emphasis on the applications of MO theory in pericyclic and photochemical reactions.

CHM 833. Advanced Reaction Mechanisms. (3 h)
Detailed analysis of mechanisms with emphasis on characterization of transition state structure.

CHM 838. Advances in Analytical Chemistry - Luminescence Spectroscopy. (3 h)
Instrumentation, methods, and applications of molecular luminescence spectroscopy.

CHM 839. Tutorial in Analytical Chemistry. (2-3 h)

CHM 843. Tutorial in Advanced Kinetics. (3 h)

CHM 844. Tutorial in Thermodynamics/Statistical Mechanics. (3 h)

CHM 848. Lasers in Physical Chemistry. (3 h)
Survey of lasers and their use to study physical-chemical processes. Topics include types of lasers, range of spectral and temporal operation, methods of detection, and application to specific chemical problems.

CHM 849. Tutorial in Chiral Asymmetry in Chemistry and Physics. (3 h)
Chiral asymmetry in nuclear, atomic, and molecular interactions. General group theoretic approach to spontaneous chiral symmetry breaking and the study of specific mechanisms.

CHM 861. Analytical and Inorganic Applications of Electrochemistry. (3 h)
Determination of inorganic and organic reaction mechanisms, electrochemical synthesis, applications to materials science.

CHM 862. Special Topics in Coordination Chemistry. (3 h)
Selected applications of transition metal chemistry such as in paramagnetic resonance (NMR, EPR), bioinorganic chemistry, and industrial process.

CHM 863. Crystallography. (3 h)
Crystal structure determination using powder and single crystal X-ray diffraction.

CHM 864. Modern Chemical Spectroscopy. (3 h)
Applications of vibrational, rotational, electronic, and nuclear spectroscopy to current problems in chemistry.

CHM 865. Metallopharmaceuticals. (3 h)
Design and mechanism of metal-containing pharmaceuticals in cancer therapy and diagnosis.

CHM 869. Tutorial in Inorganic Chemistry. (3 h)

CHM 871. Advanced Quantum Chemistry. (3 h)
Advanced quantum mechanical methods for the investigation of electronic structure and radiation-molecule interaction.

CHM 879. Tutorial in Theoretical Chemistry. (3 h)

CHM 888. Dependent Proposal. (3 h)
Course requires a written document detailing a proposed project and an oral exam covering the basic chemical principles, foundation of the plan and experimental design. Pass/Fail. Must be taken by the 6th semester of residence.

CHM 889. Independent Proposal. (3 h)
Course requires a written document and oral examination detailing a proposed project on a topic distinct from, but may be in the same general field as, the student's dissertation project. Pass/Fail. Must be taken by the 8th semester of residence.

CHM 891. Dissertation Research I. (1-9 h)

CHM 892. Dissertation Research II. (1-9 h)

Communication (COM)

COM 602. Argumentation Theory. (3 h)
Examination of argumentation theory and criticism; emphasis on both theoretical issues and social practices. Offered in alternate years.

COM 603S. Directing the Forensics Program. (1-3 h)
A pragmatic study of the methods of directing high school and college forensics. Laboratory work in the High School Debate Workshop. Summer only.

COM 604. Freedom of Speech. (3 h)
Examination of the philosophical and historical traditions, significant cases, and contemporary controversies concerning freedom of expression. Offered in alternate years.

COM 605. Communication and Ethics. (3 h)
A study of the role of communication in ethical controversies.

COM 607. The Prophetic Mode in American Public Discourse. (3 h)
Investigates prophetism as a rhetorical act by examining Biblical forms of prophetic speech and investigating how these forms influence American public discourse.

COM 610. Media Production II. (3 h)
Students produce advanced media projects over which they assume significant creative control.

COM 612. Film History to 1945. (3 h)
Survey of the developments of motion pictures to 1945. Includes lectures, readings, reports, and screenings.

COM 613. Film History since 1945. (3 h)
Survey of the development of motion pictures from 1946 to present day. Includes lectures, readings, reports, and screenings.

COM 614. Media Effects. (3 h)
Theoretical approaches to the role of communication in reaching mass audiences and its relationship to other levels of communication.

COM 615. Communication and Technology. (3 h)
Exploration of how communication technologies influence the social, political, and organizational practices of everyday life.

COM 616. Screenwriting. (3 h)
An introduction to narrative theory as well as examination of the role of the screenwriter in the motion picture industry, the influence of film genre on screenwriting and the politics of nontraditional narrative structures. Students are expected to complete an original, feature-length screenplay.

COM 617. Communication and Popular Culture. (3 h)
Explores the relationship between contemporary media and popular culture from a cultural studies perspective using examples from media texts.

COM 619. Media Ethics. (3 h)
Examines historical and contemporary ethical issues in the media professions within the context of selected major ethical theories while covering, among other areas, issues relevant to jounalism, advertising, public relations, filmmaking, and media management.

COM 620. Media Theory and Criticism. (3 h)
Critical Study of media including a survey of major theoretical frameworks.

COM 629. The Arab-Israeli-Palestinian Conflict as a Communication Phenomenon. (3 h)
Explores the evolution of the Arab-Israeli-Palestinian conflict from the end of the Nineteenth Century to its contemporary dynamic as a communication phenomenon; focusing on the narratives of the parties to the conflict as viewed through the lens of extant communication-grounded conflict theory.

COM 630. Communication and Conflict. (3 h)
Review of the various theoretical perspectives on conflict and negotiation as well as methods for managing relational conflict.

COM 631. Communication and Terror. (3 h)
Examines domestic and international terrorism as grounded in extant communication theory, with emphasis on explicating the role that communication plays in current conceptualizations and responses to terrorism.

COM 634. Narrative Approaches to Entrepreneurship. (3 h)
Embraces narrative theory to examine how myths, stories, and other tropes form the basis on which we understand entrepreneurship. We will consider diverse and alternative stories as well as the construction of the neoliberal individual in a postmodern epoch.

COM 635. Survey of Organizational Communication. (3 h)
Overview of the role of communication in constituting and maintaining the pattern of activities that sustain the modern organization.

COM 636. Organizational Rhetoric. (3 h)
Explores the persuasive nature of organizational messages - those exchanged between organizational members and those presented on behalf of the organization as a whole. Offered in alternate years.

COM 637. Rhetoric of Institutions. (3 h)
A study of the communication practices of institutions as they seek to gain and maintain social legitimacy. Offered in alternate years.

COM 638. The Art of Twentieth-Century African-American Rhetoric. (3 h)
Explores how African Americans have invented a public voice in the twentieth century. Focuses on how artistic cultural expression, in particular, has shaped black public speech.

COM 639. Practices of Citizenship. (3 h)
Explores the history and theory of citizenship as a deliberate practice linked to the rhetorical tradition of communication with an emphasis on participatory and deliberative skills as part of the process in which communities are formed and citizens emerge as members.

COM 640. Democracy, Slavery, and Sex: Emancipation Discourse from the Founding to the Civil War. (3 h)
Examines the influence of emancipation movements on American public discourse by reading and analyzing original speeches and documents with emphasis on abolition of slavery and woman's rights.

COM 641. Class, Race, Sex and War: Emancipation Discourse from the Civil War to the Second Wave of Feminism. (3 h)
Examines the influence of emancipation movements on American public discourse by reading and analyzing original speeches and documents. Among the movements addressed are labor, civil rights, student protest, and women's liberation.

COM 642. Political Communication. (3 h)
Study of electoral communication including candidate and media influences on campaign speeches, debates and advertising. Offered in alternate years.

COM 643. Presidential Rhetoric. (3 h)
Examines theory and practice of speechmaking and mediated presidential communication.

COM 646. Sport, Media and Communication. (3 h)
Examines the role of sport in society, cultural, and institutional practice. Surveys the value represented by interpersonal and mediated messages regarding key dimensions of sport including competition, ethics, gender, and race.

COM 650. Intecultural Communication. (3 h)
Introduction to the study of communication phenomena between individuals and groups with different cultural backgrounds. Offered in alternate years.

COM 651A. Comparative Communication: Japan. (1.5-3 h)

COM 653. Persuasion. (3 h)
An examination of theories and research concerning the process of social influence in contemporary society.

COM 654. International Communication. (3 h)
In-depth look at the role of mass media in shaping communication between and about cultures using examples from traditional and emerging media systems.

COM 655. Health Communication. (3 h)
Examination of theories, research, and processes of health communication in contemporary society. May be repeated for credit.

COM 656. Health Communication: Patient-Provider. (3 h)
Explores contemporary issues related to comminication in health care contexts, notably theories and research on patient-provider communication.

COM 657. Health Communication Campaigns. (3 h)
Examination of the principles behind designing, implementing, and evaluating a health campaign, including message design and application of media theories for behavior change.

COM 664. Narrative, Communication, and Health. (3 h)
Combines theory and research in social science with narrative in multiple forms: film, visual art, memoir, short story, and poetry. Explores the power of story to transform human lives with an emphasis on health. Asks: What is narrative? How does narrative shape who we are? How does narrative inform our understanding and experience of wellness and illness? How does narrative influence health communication in our personal relationships? What role can narrative play in medical education, medical practice, and public health campaigns? Through careful study and reflection, students discover how story can create positive change on a personal, professional, and societal level.

COM 670. Special Topics. (1-4 h)
Examination of topics not covered in the regular curriculum.

COM 680. Great Teachers. (3 h)
Intensive study of the ideas of three noted scholars and teachers in the field of communication. Students interact with each teacher during a two- or three-day visit to Wake Forest.

COM 719. Theory and Research Design in Communication Science. (3 h)
Examination of communication science theory with a focus on critiquing and utilizing theory in research, accompanied by an overview of quantitative research design and methodology.

COM 720. Quantitative Analysis in Communication Science. (3 h)
Overview of statistical data anaylsis, interpretation, and reporting for communication research. P-COM 719.

COM 752. Contemporary Rhetorical and Communication Theory. (3 h)
Introduction to theory building in human communication and rhetoric, with a survey and evaluation of major contemporary groups of theorists. Approaches studied are those which emphasize the symbol (George Herbert Mead and Kenneth Burke), human relations (Martin Buber), the media (Marshall McLuhan), and systems (Norbert Wiener).

COM 753. Seminar in Persuasion. (3 h)
Study of contemporary social science approaches to persuasion theory and research. Influence is examined with interpersonal, social, and mass media contexts.

COM 758. Rhetorical Theory. (3 h)
Introduction to primary texts in the theory of rhetoric including classical theories, dramatism, semiotics, and critical/cultural studies.

COM 759. Rhetorical Criticism. (3 h)
The critical application of rhetorical theories aligning with the traditions covered in COM 758. P-COM 758.

COM 763. Proseminar in Communication. (1.5 h)
Introduction to graduate study in communication.

COM 764. Proseminar in Communication. (1.5 h)
Introduction to graduate study in communication.

COM 773. Seminar in Interpersonal Communication. (3 h)
Study of recent research and theoretical developments in dyadic communication. Methodology examined includes conversational analysis, field, and experimental approaches.

COM 774. Research and Theory of Organizational Communication. (3 h)
Advanced study of theoretical approaches to the role of communication in organizations and empirical application of such theories.

COM 780. Special Seminar. (1-3 h)
Intensive study of selected topics in communication. Topics may be drawn from any theory or content area of communication and offer a wide variety of special topics across a two year program. May be repeated for credit for a maximum of 12 hours.

COM 781. Readings and Research in Speech Communication. (1-3 h)
Students may receive credit for a special reading project in an area not covered by regular courses or for a special research project not related to the master's thesis. May be repeated for credit for a maximum of 16 hours.

COM 782. Readings and Research in Speech Communication. (1-3 h)
Students may receive credit for a special reading project in an area not covered by regular courses or for a special research project not related to the master's thesis. May be repeated for credit for a maximum of 16 hours.

COM 791. Thesis Research I. (1-9 h)

COM 792. Thesis Research II. (1-9 h)

Computer Science (CSC)

CSC 611. Computer Architecture. (3 h)
An in-depth study of computer systems and architecture design. Topics include processor design, memory hierarchy, external string devices, interface design, and parallel architectures.

CSC 621. Database Management Systems. (3 h)
Introduction to large-scale database management systems. Topics include data independence, database models, query languages, security, integrity, and transactions.

CSC 622. Data Management and Analytics. (3 h)
Management, analysis, and visualization of large-scale data sets. Topics include key-value databases, distributed file systems, map reduce techniques, similarity measures, link analysis, and clustering. P - CSC 621.

CSC 631. Software Engineering. (3 h)
Study of fundamental topics in software engineering including software processes, agile software development and project management, requirements engineering, system modeling, design patterns and implementation, and software testing. Students practice software engineering prinicples through team projects.

CSC 632. Mobile and Pervasive Computing. (3 h)
Study of the fundamental design concepts and software principles underlying mobile and pervasive computing, including mobile interface design, data management, mobile networks, location aware computing, and mobile security. Involves significant programiming on modern mobile platforms.

CSC 633. Principles of Translators for Compilers and Interpreters. (3 h)
Study of techniques for translating high-level programming languages to a target language. Typical target languages include Java bytecode and assembly language. Topics include lexical analysis, parsing, intermediate representatives, language semantics, code generation, and optimization.

CSC 641. Operating Systems. (3 h)
Study of the different modules that compose a modern operating system. In-depth study of concurrency, processor management, memory management, file management, and security.

CSC 643. Internet Protocols. (3 h)
Study of wide area connectivity through interconnection networks. Emphasis is on Internet architecture and protocols. Topics include addressing, routing, multi-casting, quality of service, and network security.

CSC 645. Cloud Platforms and Services. (3 h)
Study of cloud computing platforms and services. Emphasis is on infrastructure, platforms, and software as service models on contemporary cloud platforms. Topics include delivery and deployment models! virtual machines, containers, serverless, clustering, Kubernetes, operations, and security.

CSC 646. Parallel Computation. (3 h)
Study of techniques for parallel and high performance computing. Topcs include an overview of modern high-performance computer design, pipelining, concurrency, data depedency, shared memory, message passing, and graphics processors. Select parallel algorithms and methods for asymptotic scalability analysis are also presented. Assignments may include coding with OpenMP, MPI, and the CUDA library.

CSC 647. GPU Programming. (3 h)
An introduction to general purpose parallel program development on Graphics Processing Units (GPUs). Topics covered will include data parallelism, memory and data locality, parallel algorithm patterns and performance metrics, and application test studies.

CSC 648. Computer Security. (3 h)
Introduction to computer security concepts and associated theory. Detailed coverage of the core concepts of access control, cryptography, trusted computing bases, digital signatures, authentication, network security, and secure architectures. Legal issues, security policies, risk management, certification and accreditation are covered in their supporting roles. Students will learn to analyze, design, and build secure systems of moderate complexity.

CSC 652. Numerical Linear Algebra. (3 h)
Numerical methods for solving matrix and related problems in science and engineering using high-level matrix-oriented language such as MATLAB. Topics include systems of linear equations, least squares methods, and eigenvalue computations. Special emphasis is given to applications. Credit is not allowed for both CSC 652 and MTH 626.

CSC 655. Introduction to Numerical Methods. (3 h)
An introduction to numerical computations on modern computer architectures; floating point arithmetic and round-off error including programming in a scientific/engineering language such as MATLAB, C or Fortran. Topics include algorithms and computer techniques for the solution of problems such as roots of functions, approximations, integration, systems of linear equations and least squares methods. Credit not allowed for both MTH 655 and CSC 655.

CSC 671. Artificial Intelligence. (3 h)
Introduction to problems in artificial intelligence. Topics may include knowledge representation, heuristic search, formal logic, planning, robotics, machine learning, intelligent agents, and pattern recognition.

CSC 673. Data Mining. (3 h)
An overview of data mining methods and algorithms for classification, association analysis, clustering, and anomaly detection. A major focus will be on the implementation of algorithms for and design and construction of solutions to data mining problems. Applications and ethical considerations of data mining in humanities, arts, and healthcare are discussed.

CSC 674. Machine Learning. (3 h)
An introduction to concepts and application of machine learning algorithms and techniques, focusing on supervised and unsupervised learning. Students learn the theoretical concepts behind several types of machine learning algorithms and gain practical experience applying them. Algorithms covered could include logistic regression, support vector machines, regularization, dimensional reduction, clustering, and neural networks.

CSC 675. Neural Networks and Deep Learning. (3 h)
An introduction to concepts and applications of neural networks and deep learning, a branch of machine learning that uses additional layers of high-level representations of data to maximize performance on a given task. The topics covered may include basic neural networks, deep neural networks, and convolutional and recurrent neural networks. Students learn the theoretical concepts behind several of types of neural network algorithms and gain practical experience applying them.

CSC 676. Reinforcement Learning. (3 h)
Introduction to reinforcement learning concepts and applications, including single-agent and multi-agent setting. Topics may cover value- and policy-based methods, temporal-difference learning, exploration strategies, and safety of learned agents. Students gain theoretical understanding and practical experience applying reinforcement learning techniques.

CSC 685. Bioinformatics. (3 h)
Introduction to bioinformatics and computing techniques essential to current biomedical research. Primary focus is gene and protein sequence and structure databases and algorithms for sequence and structure analysis. Emphasizes interdisciplinary interactions and communication. Also listed as PHY 685 and BIO 685.

CSC 687. Computational Systems Biology. (3 h)
Introduction of concepts and development of skills for the comprehension of modern systems biology research problems, including both biological and computational aspects. Topics may include microarrays, protein interaction networks, large-scale proteomics experiments, and algorithms and computational approaches for modeling, storing, and analyzing the resulting data sets. Emphasizes interdisciplinary interactions and communication.

CSC 691. Selected Topics. (1-3 h)
Topics in computer science that are not studied in regular courses or which further examine topics begun in regular courses. P-POI.

CSC 693. Individual Study. (1-2 h)
Independent study directed by a faculty advisor. By prearrangement.

CSC 702. Theory of Computation. (3 h)
Basic theoretical principles of computer science. Topics include the relationship between automata and grammars, Church's thesis, unsolvability, and computational complexity.

CSC 721. Theory of Algorithms. (3 h)
Design and analysis of algorithms. Topics may include time and space complexity analysis, divide-and-conquer algorithms, the fast Fourier transform, NP-complete problems, and efficient algorithms for operations on lists, trees, graphs, and matrices.

CSC 726. Parallel Algorithms. (3 h)
A thorough, current treatment of parallel processing and supercomputing. Modern high-performance commercial architectures, parallel programming, and various supercomputing applications are discussed. Hands-on experience is emphasized. Students are given access to a variety of machines.

CSC 731. Compiler Optimization. (3 h)
Design and implementation of optimizing compilers. Optimization techniques, parallelizing transforms, and comparative examples form the literature. P-CSC 633.

CSC 743. Topics in Operating Systems. (3 h)
Issues in operating system development; resource management, queuing theory, concurrent processing, and languages for operating system development. P-CSC 641.

CSC 753. Nonlinear Optimization. (3 h)
The problem of finding global minimums of functions is addressed in the context of problems in which many local minima exist. Numerical techniques are emphasized, including gradient descent and quasi-Newton methods. Current literature is examined and a comparison made of various techniques for both unconstrained and constrained optimization problems. Also listed as MTH 753.

CSC 754. Numerical Methods for Partial Differential Equations. (3 h)
Numerical techniques for solving partial differential equations (including elliptic, parabolic, and hyperbolic) are studied along with applications to science and engineering. Theoretical foundations are described, and emphasis is on algorithm design and implementation using either C, FORTRAN or MATLAB. Also listed as MTH 754. P-CSC 655 or MTH 655.

CSC 765. Image Processing. (3 h)
Advanced techniques in image processing including image formation and corruption models, digitization, Fourier domain methods, enhancement, restoration, and tomographic reconstruction. P-CSC 721.

CSC 766. Pattern Recognition. (3 h)
Study of statistical pattern recognition techniques and computer-based methods for decision-making, including discriminant functions, feature extraction, and classification strategies. Emphasis is on applications to medical image analysis. P-POI.

CSC 767. Computer Vision. (3 h)
Techniques for extracting features from images: optimal thresholding, 2D and 3D feature measurement, graph isomorphism and graph matching methods. P-CSC 766.

CSC 775. Neural Networks. (3 h)
Design of artificial neural networks. Introduction to the relevant neurophysiology, feedforward networks, recurrent networks, and applications to pattern recognition and optimization.

CSC 779. Topics in Artificial Intelligence. (3 h)
Advanced topics in artificial intelligence. Individual projects are assigned. P-CSC 671.

CSC 781. Computer Science Seminar. (1 h)
Discussions of contemporary research.

CSC 790. Advanced Topics. (3 h)
Advanced topics of current interest in computer science not covered by existing courses. P-POI.

CSC 791. Thesis Research I. (1-9 h)
May be repeated for a maximum of 18 hours each. Satisfactory/Unsatisfactory.

CSC 792. Thesis Research II. (1-9 h)
May be repeated for a maximum of 18 hours each. Satisfactory/Unsatisfactory.

CSC 795. Project. (3 h)
Satisfactory/Unsatisfactory.

CSC 796. Internship. (1-6 h)
Provides students an opportunity to integrate computer science theory and practice by working in a supervised and professional setting. The course is limited to those seeking the fifth-year Master's in computer science and approval must be obtained by the Computer Science Graduate faculty prior to enrollment. Credit hours may be adjusted based on the length of the internship. May be repeated. Satisfactory/Unsatisfactory. P-CSC 631 (admission to the 5th year program).

Counseling (CNS)

CNS 721. Research and Statistical Analysis in Counseling. (3 h)
Qualitative and quantitative research methods. Analysis and evidence-based evaluation of research-based literature in the counseling field. Grant writing. Program evaluation. Descriptive, Inferential, parametric and non parametric statistical procedures involved in research.

CNS 723. Statistical Analysis for the Helping Professions. (3 h)
Descriptive and inferential (parametric and nonparametric) statistical procedures involved in research. Computer methods for statistical analysis. Counseling students only.

CNS 736. Appraisal Procedures for Counselors. (3 h)
Appraisal, assessment, and diagnosis of personality, emotional, intellectual, and learning characteristics and disorders of clients in schools, colleges, and community human service agencies. Use of tests in counseling as an adjunct to clinical impressions.

CNS 737. Basic Counseling Skills and Techniques. (3 h)
Basic communication skills, helping relationships, and strategies for personal change. Issues and ethics in counseling.

CNS 738A. Counseling Practicum - School. (3 h)
Supervised experience for the development of individual and group counseling skills under individual and group supervision in a school or clinical mental health agency. Involvement in direct service work and activities similar to those of regularly employed professional staff. P-CNS 737.

CNS 738B. Counseling Practicum - Clinical Mental Health. (3 h)
Supervised experience for the development of individual and group counseling skills under individual and group supervision in a school or clinical mental health agency. Involvement in direct service work and activities similar to those of regularly employed professional staff. P-CNS 737.

CNS 739. Advanced Counseling Skills and Crisis Management. (3 h)
Topics covered will be advanced and specialized counseling interventions including crisis intervention, suicide prevention, and emergency management models. Students will be required to demonstrate appropriate skill level. P-CNS 737.

CNS 740. Professional Orientation to Counseling. (3 h)
Covers the history, roles, organizational structures, ethics, standards, specializations, and credentialing in the profession of counseling. Public policy processes and contemporary issues are also considered.

CNS 741. Theories and Models of Counseling. (3 h)
Study of theories and approaches to professional counseling: psychoanalytic (Freud, Adler, Jung), person-centered (Rogers), existential (May, Frankl), behavioral (Skinner, Glasser), cognitive/rational (Ellis), holistic/systemic, eclectic. Professional orientation, issues, ethics, cultural pluralism, and trends in counseling.

CNS 742. Group Procedures in Counseling. (3 h)
An experiential and conceptual exploration of the psychological dynamics and interpersonal communication of small groups, including group structure, leadership models, group process and practice, stages of group development, group techniques, and ethical principles.

CNS 743. Career Development and Counseling. (3 h)
Vocational development throughout life; psychological aspects of work; occupational structure and the classifications of occupational literature; theories of vocational choice and their implications for career counseling.

CNS 744A. Counseling Internship I: School. (2-3 h)
Supervised counseling experience in a school, college, or community agency under a regularly employed staff member professionally trained in counseling. Observation of and active participation in direct service work to clients. Monitoring of audio or videotaped interviews. Case review. P-CNS 738.

CNS 744B. Counseling Internship I: Clinical Mental Health. (2-3 h)
Supervised counseling experience in a school, college, or community agency under a regularly employed staff member professionally trained in counseling. Observation of and active participation in direct service work to clients. Monitoring of audio or videotaped interviews. Case review. P-CNS 738.

CNS 744C. Counseling Internship I: Addiction. (2-3 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 738.

CNS 745A. Counseling Internship II: School. (2-3 h)
Supervised counseling experience in a school, college, or community agency under a regularly employed staff member professionally trained in counseling. Observation of and active participation in direct service work to clients. Monitoring of audio or videotaped interviews.P-CNS 744.

CNS 745B. Counseling Internship II: Clinical Mental Health. (2-3 h)
Supervised counseling experience in a school, college, or community agency under a regularly employed staff member professionally trained in counseling. Observation of and active participation in direct service work to clients. Monitoring of audio or videotaped interviews. P-CNS 744.

CNS 745C. Counseling Internship II: Addiction. (2-3 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 744.

CNS 746. Counseling Children. (3 h)
Theory and practice of counseling with children in schools and community agencies. Elementary school counseling; models, methods, and materials. Counseling children with special emotional, learning, psychological, or behavioral concerns.

CNS 747. Cultures and Counseling. (3 h)
The influence of culture in human development and in counseling relationships. A study of personal and ethnic diversity and commonality.

CNS 748. Life Span Development: Implications for Counseling. (3 h)
Examination of major theories and principles of human development across the life span, including physical, psychological, intellectual, social, and moral perspectives.

CNS 749. School Guidance and Counseling. (3 h)
The organization and management of comprehensive school guidance and counseling programs. Individual and group counseling, consultation, coordination, and collaboration in student services in schools. Program development in elementary, middle, and secondary schools.

CNS 750. The Vienna Theorists-Freud, Adler, Moreno and Frankl. (3 h)
Examination of the original writings of four of the leading theorists of modern counseling, which is enhanced by a visit to the city in which they initially formulated their clinical ideas. Students read and discuss several original writings of each practitioner-Freud, Adler, Moreno, and Frankl-prior to and during a two-week stay in the Wake Forest University Flow House in Vienna during which they visit relevant historical sites and institutes.

CNS 752. Human Services Administration. (3 h)
This course will focus on the knowledge, theory, and skills used in the administrative aspects of the human services delivery systems including organizational management, supervision, strategic planning, budgeting, grant and contract negotiation, and legal/regulatory issues. The course also covers managing the professional development of staff, recruiting and managing volunteers, and advocacy techniques. P-CNS 737, 741, and 742.

CNS 753. Human Services Program Planning and Evaluation. (3 h)
This course will focus on the range and characteristics of human services delivery systems and major conceptual models used to integrate prevention, maintenance, intervention, and rehabilitation and healthy functioning. The course includes the history of human services as well as the systematic analysis of service needs. The course also covers the selection of strategies or interventions and the evaluation of outcomes. P-CNS 737, CNS 741, and CNS 742.

CNS 754. Human Services Field Experience. (1-3 h)
Field experience is a learning experience in a human services delivery organization in which the student will complete 350 hours of on-site volunteer work with an agency. Students, university supervisors, and on-site partners will determine the student's role, activities, outcomes, and instructional needs based on placement site possibilities. P-CNS 752 and CNS 753.

CNS 755A. Counseling Internship III: School. (2 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 745A.

CNS 755B. Counseling Internship III: Clinical Mental Health. (2 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 745B.

CNS 755C. Counseling Internship III: Addiction. (2 h)
Internship is a supervised counseling experience in a school, college, addictions recovery setting, community agency, or medical center in which students provide direct counseling services and engage in activities relevant to their counseling specialty area. P-CNS 745C.

CNS 760. Issues in School Counseling. (3 h)
This course is designed to allow students to investigate current issues related to the practice of school counseling. The emphasis will be on identifying appropriate prevention responses to these issues. Counseling students only.

CNS 762. Case Formulation and Treatment Planning in Clinical Mental Health Counseling. (3 h)
Examines case conceptualization (e.g., assessment, diagnosis) and treatment planning in clinical mental health counseling settings as well as contemporary issues related to clinical mental health counseling. Explores ethical and professional considerations for counselors' interfacing with the legal system and in integrated behavioral health settings.

CNS 763. Specialized Study in Counseling. (1-3 h)
Exploration of special topics or areas of practice in the field of counseling. a. School Guidance and Counselingb. College Student Development Services Counselingc. Mental Health Counselingd. Marriage and Family Counselinge. Business/Industry Counselingf. Correctional Counselingg. Career Counselingh. Rehabilitationi. Adult Development/Aging j. Religious Counselingk. Health Counseling l. Multicultural Counselingm. Holistic Counselingn. Tests, Measurements and Interpretation.

CNS 764. Creative Arts in Counseling. (1-3 h)
Examines history, theories, processes, and techniques of using the creative arts in counseling with clients throughout the life span. Particular attention is given to the visual and verbal arts, such as drawing, imagery, photography, cartooning, cinema, movement, dance, literature, drama, and music.

CNS 765. Addiction Counseling. (3 h)
Introduces the concepts of chemical dependency, counseling procedures and techniques, and treatment considerations. The student has opportunities to apply models of chemical dependency counseling to hypothetical situations at various stages of substance use.

CNS 766. Crisis Prevention and Response. (3 h)
This course will present counseling approaches which effectively address crises. The course will examine the characteristics and impact of trauma and crisis and potential neurobiological responses. Students will gain knowledge and skills useful in theory-based prevention and response models and community-based strategies for a diverse soceity. Students will also explore counseling and human service contexts for application of assessment and intervention approaches in addressing specific crisis situations.

CNS 767. Human Sexuality. (3 h)
This course is designed for counseling students whose work will bring them into contact with clients experiencing problems and concerns with their sexuality. The course is designed to develop: a) students' knowledge base related to human sexuality, b) an understanding of the varied sexuality issues which may be encountered in professional counseling practice, c) students' skills in assessment and intervention skills with sexuality issues and d) increased awareness of one's personal perceptions, attitudes and affect related to sexuality issues. Course participants will become more effective in identifying, assessing, and intervening with human sexuality related counseling issues.

CNS 768. PsychoPharmacology for Counselors. (3 h)
Students will learn the basic prinicples of psychopharmacology, pharmacokinetics, and neurobiology as they pertain to their role as a professional counselor. They will learn how psychopharmacological drugs are classified, prescribed, and managed. The information presented in this course will prepare student to function as knowledgeable members of multi-disciplinary treatment teams serving clients seeking counseling services. Finally, students will gain knowledge about the important and complex ethical and legal issues that surround the use of psychopharmacological drugs.

CNS 769. Advanced Counseling in a Diverse Society. (3 h)
An advanced investigation into the complex elements of racism, social justice, and advocacy in the counseling relationship and beyond. An exploration of systemic disparities (ex. food deserts and health care) as well as anti-racist perspectives and actions in a diverse society, further promoting an in-depth personal and professional examination of implicit and explicit biases.

CNS 770. Classification of Mental and Emotional Disorders. (3 h)
Analyzes healthy and unhealthy personality, as well as developmental and situational problems in adjustment. Studies the classification of mental disorders, as defined by the American Psychiatric Association in the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders. Examines appropriate ways in which diagnosis can be utilized by counselors to explore personality and systemic interventions for career, educational, and relationship concerns.

CNS 771. Clinical Mental Health Counseling. (3 h)
History, philosophy, organization, management, and delivery of counseling services in various clinical mental health settings. Preventative, developmental, and remedial strategies for use with various populations.

CNS 772. Marriage and Family Systems. (3 h)
Study of the institutions of marriage and the family from a general systems perspective. Exploration of how changes in developmental and situational aspects of the family life cycle influence individuals within the systems of marriage and the family. Both horizontal and vertical dimensions of change are focused on through the use of genograms. Different forms of family lifestyles, such as dual career, single parent, and blended are covered.

CNS 773. Family Counseling. (3 h)
Examination of the philosophy and goals of seven major theories of family counseling (Bowenian, Adlerian, psychodynamic, experiential/humanistic, behavioral, structural, strategic) as well as the development of the profession of family counseling from a historical and current trends perspective. Differences between family counseling and individual/group counseling are highlighted and ethical/legal considerations for working with family units are stressed. Techniques associated with theories are demonstrated through video and play simulations. Research methods for gathering data on families are highlighted.

CNS 774. Marriage Counseling. (3 h)
Study of the philosophy and goals of six main theories of marriage counseling (psychoanalytic, social learning, Bowenian, structural-strategic, experiential/humanistic, and rational-emotive) and the techniques associated with each. Historical and current trends associated with the field of marriage counseling are explored, along with related issues such as premarital counseling, family-of-origin influences within marriage, and widowhood. Appropriate marriage assessment instruments, research methods, and ethical/legal questions involved in marriages counseling are addressed.

CNS 775. Marital and Family Health and Dysfunctionality. (3 h)
Examines system and individual dynamics associated with marital and family health and dysfunctionality. Longitudinal research on factors connected with healthy, long-term marriages and functional family life are explored. Interactive patterns that lead to such marital and family dysfunctionality as spouse and child abuse, anorexia nervosa, addictive disorders, and dependency are examined.

CNS 776. Assessment and Treatment Planning in Addictions. (3 h)
Examines screening, assessment, and diagnosis of addiction and co-occurring disorders. P-CNS 765, POI, or a masters degree in the counseling field.

CNS 777. Addictions Counseling Skills. (3 h)
Explores the development of skills for individual and group counseling with persons diagnosed with addictive and co-occurring disorders.

CNS 778. Addiction and the Family. (3 h)
Explores the influence of addiction on family systems. Covers knowledge and skills for assisting individuals and families with substance abuse and addiction. P-CNS 765, POI, or a masters degree in the counseling field.

CNS 780. Professional, Ethical and Legal Issues in Counseling. (2 h)
Provides an overview of the critical professional issues in counseling with emphasis on current ethical, legal, and values-related questions and the relationship of these issues to the counselor's role in training, supervision, consultation, appraisal, and research. P-Advanced graduate standing or permission of instructor.

CNS 782. Developmental Counseling Psychology. (3 h)
Theoretical, research, and methodological aspects of a developmental/holistic/systems framework for counseling. Integration and application of major theories and approaches to counseling.

CNS 786. Consultation and Technology in Counseling. (2 h)
This course examines the theory and application of consultation in counseling! including consultation with families, schools, colleges and community agencies. The course also explores technologies used in counseling practice, and the ethical and practical implications of engaging in technology assisted counseling such as distance counseling.

CNS 790. Professional Identity Capstone. (2 h)
Review and application of counseling skills, settings, practice parameters and other current issues necessary to integrate students into the profession of counseling. P-CNS 744.

Creative Writing (CRW)

CRW 600. Topics in Creative Writing. (3 h)
Workshop centering on theme instead of genre. Students study creative writing through the lens of ideas such as hybridity, ecology, and the visual. Through analyzing important texts, workshops, and class discussions, students hone their skills in fiction, poetry, and nonfiction, as well as improve their abilities to revise and offer feedback on classmates' work. May be repeated with permission.

CRW 684. Playwriting. (3 h)
Examines the elements of dramatic structure and their representations in a variety of dramatic writings. Explores the fundamentals of playwriting through a series of writing exercises.

CRW 685. Poetry Workshop. (3 h)
Emphasis on reading and discussing student poems in terms of craftsmanship and general principles. May be repeated once.

CRW 686. Fiction Workshop. (3 h)
Primarily a short story workshop, with class discussion on issues of craft, revision, and selected published stories. May be repeated once.

CRW 687. Literary Nonfiction Workshop. (3 h)
Emphasis on the theory and craft of creative nonfiction as well as on contemporary writers of creative nonfiction. May be repeated once.

Documentary Film Program (DOC)

DOC 600. Applied Communications Strategies I. (3 h)
Applied Communications Strategies I introduces students to practical approaches for developing clear,effective, and audience-centered communication strategies across a variety of professional contexts.

DOC 601. Applied Communications Strategies II. (3 h)
Applied Communications Strategies II builds on foundational skills by focusing on advanced techniques for persuasive messaging, strategic storytelling, and adaptive communication.

DOC 701. Internship I. (1.5 h)
Internships may be taken for 1.5 credits on a pass/fail basis when approved by faculty members. These internships provide students the opportunity for experiential learning at production houses, television networks, public television stations, and at other facilities deemed useful as well as with independent producers.

DOC 702. Internship II. (1.5 h)
Internships may be taken for 1.5 credits on a pass/fail basis when approved by faculty members. These internships provide students the opportunity for experiential learning at production houses, television networks, public television stations and at other facilites deemed useful as well as with independent producers.

DOC 703. Internship. (3 h)
Internships provide students the opportunity for experiential learning at production houses, television networks, public television stations, and at other facilities deemed useful as well as with independent producers.

DOC 713. Documentary Storytelling I. (3 h)
The course provides an introduction to the fundamental theory and craft of non-fiction visual storytelling and familiarizes students with concepts such as drama, structure, story development and visual style.

DOC 715. Cinematography and Sound. (3 h)
Through a combination of lectures, film screening and hands-on demonstrations, this course will familiarize students with the basics of documentary shooting, lighting, and sound gathering.

DOC 717. Fundamentals of Documentary Editing. (1.5 h)
Through a combination of lectures, film screenings, hands-on demonstrations, and assignments, this course familiarizes students with the basics of documentary editing.

DOC 718. Social Media and Marketing in the Creative Arts. (3 h)
Social Media and Marketing in the Creative Arts will take a deep dive on how social media is changing not just what content creators produce, but also changing the way creators engage with their audience by using social media and marketing techniques to drive attention to their work and enhance their overall brand. This course will survey how communication is continually changing, different forms of social media as well as creativity in the digital space. Through guest lectures, case studies and hands-on production - students will study each media platform, learn how it's being used and see how it can be leveraged on enhance all aspects of the creative arts. Course may be offered on campus or online.

DOC 722. Documentary Storytelling II. (3 h)
This course teaches students how to research, conceptualize, and develop a non-fiction story idea. Students receive instruction on effective research strategies, idea development, production planning, and proposal writing and pitching.

DOC 724. Advanced Story Editing. (3 h)
Builds upon the storytelling skills learned in the Foundations of Story Editing course and complements the production techniques learned in Cinematography and Sound. Special emphasis will be placed on the aesthetics of editing and other post-production techniques.

DOC 726. Advanced Sports Storytelling. (3 h)
Advanced Sports Storytelling is a course designed to introduce students to both the theoretical and technical aspects of non-fiction sports storytelling. Students will examine both historical and contemporary examples of sports storytelling, including various styles of documentaries, branded and commercial content, social media and web-based content, and podcasts. In addition to engaging with and discussing the theoretical aspects of this content, students will also be provided with the technical principles required of sports storytelling, including cinematography, lighting, audio design, and video editing.

DOC 728. Documentary History. (3 h)
The purpose of this course is to acquaint students with the historical development of documentary film from its roots in 19th-century art forms to the present. The course will examine various styles and techniques of documentary and will analyze the contribution of the documentary as a persuasive means of communication to achieve social and political goals. This course is open to all Wake Forest University graduate students.

DOC 730. Sports, Culture and Society. (3 h)
Through films, case studies and discussions with sports professionals, media industry leaders and scholars we will look at how sports helps frame our common understanding of society's biggest social issues including race, gender, and human rights.

DOC 733. The Business of Sports Media. (3 h)
Students will get a high level understanding of the business of sports media and how the digital revolution is changing the game for content creators, leagues and teams. Through lectures, current periodicals, projects and guest speakers, students will learn to look beyond the final score and better understand the entire sports communication eco-system.

DOC 734. Advanced Cinematography and Sound. (3 h)
This course provides instruction in advanced cinematography, sound, and lighting techniques.

DOC 735. Documentary Law and Ethics. (3 h)
Provides students with the opportunity to explore the ethical issues that can arise in documentary filmmaking. The discussion points will evolve from the in-depth examination of a select group of films and directors.

DOC 737. Documentary Storytelling III. (3 h)
The class focuses on advanced principles of writing, producing, directing and editing documentary films. Theoretical, aesthetic, technical and ethical aspects of the creative non-fiction storytelling process will be the focus. The class format will be a combination of theory and practice as it relates to the dramaturgical process of filmmaking.

DOC 746. Documentary Storytelling IV. (3 h)
The course combines lectures, screenings, and exercises to build a technical and aesthetic foundation in digital post-production. Special emphasis will be placed on advanced visual storytelling techniques–including continuity, pacing, character development and dramatic structure. Students will also explore various distribution strategies and transmedia applications.

DOC 748. Creative Thesis Project. (1-9 h)
Students will work under faculty supervision on their creative thesis projects.

DOC 750. The Imagination Project. (3 h)
Students will produce short films, digital study guides or E-books and/or other types of multimedia materials on important social, political, cultural and economic issues. The course, structured around digital media projects, provides opportunities for students to immerse themselves in a single topic and interact with scholars from various disciplines. The topics will vary each year.

DOC 751. Professional Seminar: Teaching in Higher Education. (3 h)
Provides an understanding of pedagogical practices and major theories of curriculum and a foundation for students interested in pursuing careers in academe.

DOC 753. Individual Study. (1-3 h)
For students who wish to perform independent study in a cognate area with a professor from the Documentary Film Program or another program. May be repeated for credit for a maximum of 9 hours.

DOC 755. Professional Seminar: Entrepreneurial Filmmaking. (3 h)
This course will provide students with the knowledge and skills to help them create their own creative arts venture and help them design and teach a course in entrepreneurship in the creative arts, particularly digital media and non-fiction filmmaking.

DOC 764. Individual Study. (1-3 h)
For students who wish to perform independent study in a cognate area with a professor from the Documentary Film Program or another program. May be repeated for credit for a maximum of 9 hours.

DOC 766. Teaching Practicum. (3 h)
Students works closely with Documentary Film program faculty during the teaching of an undergraduate course. Students participate in the design and development of course material and observe classroom and organizational aspects of teaching in an apprenticeship role.

DOC 780. Special Topics. (1-3 h)
Intensive study of selected topics in documentary film. Topics may be drawn from any content area of documentary studies and production. May be repeated for credit for a maximum of 6 hours.

Education (EDU)

EDU 601. Microcomputer and Audiovisual Literacy. (3 h)
Introduction to microcomputers for educators and other users, emphasizing familiarity with computers, use and evaluation of software, and elementary programming skills. Experience with audiovisual materials and techniques is included.

EDU 602. Production of Instructional Materials. (3 h)
Methods of producing instructional materials and other technological techniques. P-EDU 601and senior or graduate standing.

EDU 603. History of Western Education. (3 h)
Educational theory and practice from ancient times through the modern period, including American education.

EDU 604. Social Justice Issues in Education. (3 h)
This course facilitates exploration of issues of social justice and schooling from both theoretical and practical perspectives. It includes a focus on multicultural education, global awareness, issues of equity in school funding, urban and rural education, poverty, and marginalized populations.

EDU 605. The Sociology of Education. (3 h)
Study of contemporary educational institutions. Examines such issues as school desegregation, schooling and social mobility, gender equity, and multiculturalism.

EDU 606. Studies in the History and Philosophy of Education. (3 h)
Study of selected historical eras, influential thinkers, or crucial problems in education. Topics announced annually.

EDU 609L. Introduction to Secondary Education. (3 h)
This course includes practical experiences in classrooms with focus on secondary classrooms and students. It involves public school experience and seminar.

EDU 610. Race, Class, and Gender in a Color-blind Society. (3 h)
Examines issues surrounding race, class, and gender in the U.S. Topics include income and wealth, theories of discrimination, public education, gender bias, and patterns of occupational and industrial segregation.

EDU 612. Teaching Exceptional Children. (3 h)
This course examines the various types of learning differences in K-12 schools. Emphasis is on instructional planning, identification of interventions, and assessment techniques to support diverse learners.

EDU 613. Human Growth and Development. (3 h)
Theories of childhood and adolescent development, their relation to empirical research, and their educational implications. Consideration of the relation to learning of physical, intellectual, emotional, social, and moral development in childhood and adolescence.

EDU 614L. Elementary Teaching Rounds. (2 h)
Involves practical experiences in elementary classrooms with focus on pedagogy and content. Weekly public school experience and seminar. Pass/Fail.

EDU 616. Elementary Literacy Interventions. (3 h)
This course is a field experience for elementary education candidates focused on early literacy, including diagnosis and remediation of reading and writing skills. It includes public school experience and seminar.

EDU 621. Advanced Issues and Trends in Education. (3 h)
Special topics course related to advanced educational issues and trends with a focus on K-12 schools and teachers. Focus will vary by instructor. Course can be repeated if topic differs.

EDU 637. TESOL Linguistics. (3 h)
An introduction to the theoretical and practical linguistics resources and skills for teaching English to speakers of other languages (TESOL) within the US or abroad.

EDU 641. Teaching Elementary Literacy. (3 h)
Methods and materials for implementing research-based strategies for teaching and assessing reading, writing, listening and speaking in grades K-6.

EDU 642. Teaching Elementary Social Studies and Methodology and Management Lab. (3 h)
Methods and materials for teaching K-6 social studies, including adaptations for diverse and exceptional learners. Includes experiences in diverse elementary classrooms.

EDU 643. Teaching Elementary STEM (Science, Technology, Engineering, Mathematics). (3 h)
Methods and materials for teaching STEM subjects in elementary schools, emphasizing inquiry teaching and learning, and including adaptations for diverse and exceptional learners.

EDU 650L. Student Teaching: Elementary. (9 h)
Supervised teaching experience in grades K-6. Full-time. Service Learning. Pass/Fail only.

EDU 651. Adolescent Psychology. (4 h)
Introduction to theories of adolescent psychology as related to teaching and counseling in various settings. Readings emphasize researchers' suggestions for parenting, teaching, and counseling adolescents between the ages of 13 and 19.

EDU 654. Content Pedagogy. (3 h)
Methods, materials, and techniques used in teaching particular secondary subjects (English, mathematics, science, second languages, social studies).

EDU 654A. Content Pedagogy: Teaching Secondary English. (3 h)
Methods and materials used in teaching secondary English.

EDU 654B. Content Pedagogy: Teaching Secondary Mathematics. (3 h)
Methods and materials used in teaching secondary mathematics.

EDU 654C. Content Pedagogy: Teaching Secondary Social Studies. (3 h)
Methods and materials used in teaching secondary social studies.

EDU 654D. Content Pedagogy: Teaching Secondary Science. (3 h)
Methods and materials used in teaching secondary science.

EDU 654E. Content Pedagogy: Teaching World Languages. (3 h)
Methods and materials used in teaching world languages.

EDU 654L. Content Pedagogy Rounds. (2 h)
Practical experiences in classrooms with focus on pedagogy and content. Weekly public school experience and seminar. Pass/Fail only.

EDU 655. Professional Seminar: Elementary. (3 h)
Students reflect on all aspects of the elementary school curriculum, including meeting the needs of diverse learners, lesson planning, best practices, classroom management, and leadership. Required completion and submission of edTPA portfolio. Pass/Fail only.

EDU 657. Crisis in Higher Education. (3 h)
Explores the current crisis in higher education by providing historical context and considering emerging trends. Includes topics such as issues of student access, public and private institutional funding, the evolving landscape of modern employment, and public perceptions of higher education.

EDU 661. Foundations of Education. (3 h)
Philosophical, historical, and sociological foundations of education, including analysis of contemporary issues and problems.

EDU 664L. Student Teaching Internship. (9 h)
Supervised teaching internship in grades 9-12 (K-12 for foreign language). Full-time, 15-week field experience. Pass/Fail only.

EDU 665. Professional Development Seminars. (3 h)
Analysis and discussion of problems and issues in secondary school teaching. Examination of research and practice-based strategies. Required completion and submission of edTPA portfolio. Pass/Fail only.

EDU 668. Professional Experience in Education. (3 h)
This course offers students a placement in an educational setting under the supervision of a professional mentor. During this internship, students examine a critical topic in a local school, a community agency, a nonprofit organization, or other educational setting.

EDU 673. Comparative and International Education. (3 h)
A study of various historical, political, economic, and social issues shaping education in selected countries throughout the world. The course aims to expand student understanding of differing educational and pedagogical structures and comparatively investigate educational issues around the globe.

EDU 674. Student Teaching Seminar. (1.5 h)
Analysis and discussion of practical problems and issues in the teaching of particular secondary subjects (English, mathematics, science, second languages, social studies). Emphasis is on the application of contemporary instructional methods and materials. Includes prior (intercession) 20 hours field experience requirement.

EDU 677. Literacy in the 21st Century. (3 h)
This course examines the impact of emerging literacy trends on the 21st Century students in a digital global world. There is specific focus on engaging reluctant and struggling readers.

EDU 681. Special Needs Seminar. (1 h)
Analysis and discussion of practical problems and issues in the teaching of special needs students in the secondary classroom. Topics include classroom management, reading and writing in the content area, inclusion, and evaluation. Satisfactory/Unsatisfactory.

EDU 682. Reading and Writing in the Content Areas. (2 h)
Survey of methods for teaching reading and writing to help students learn in the various content areas, and of techniques for adapting instruction to the literacy levels of students.

EDU 683. Classroom Management Seminar. (1 h)
Examination of research and practice-based strategies for secondary school classroom management and discipline. Pass/Fail Only.

EDU 684. Creative Research Methodologies. (2 h)
Investigation of source materials, printed and manuscript, and research methods which are applied to creative classroom experiences and the preparation of research papers in literature and social studies.

EDU 685. Diversity Seminar. (1 h)
Exploration of multi-cultural issues and relevant Spanish language and cultural teaching practices essential for classroom communication. Pass/Fail Only.

EDU 687. Tutoring Basic Writing. (2 h)
Review of recent writing theory applicable to teaching basic writers (including the learning disabled and non-native speakers). Special attention to invention strategies and heuristic techniques. Includes experience with tutoring in the Writing Center.

EDU 688. Writing Pedagogy. (3 h)
This course blends theory and practice, providing students from all content areas with a foundational understanding of writing pedagogy methods and approaches. Topics of study will include writing across the curriculum, writing research and writing assessment.

EDU 690. Methods and Materials for Teaching Foreign Language. (3 h)
Survey of the basic materials, methods, and techniques of teaching foreign languages in the elementary and middle grades. Emphasis is on issues and problems involved in planning and implementing effective second language programs in grades K-6. Spring only.

EDU 693. Individual Study. (1-3 h)
A project in an area of study not otherwise available in the department; permitted upon departmental approval of petition presented by a qualified student. May be repeated for credit.

EDU 695. Teaching Diverse Learners. (3 h)
This course explores the multifaceted nature of diversity in today's classrooms, with particular attention to English learners, exceptional children, and students from culturally and linguistically diverse backgrounds.

EDU 698. Seminar in Secondary Education. (1 h)
Investigation of the issues that form the context for teaching in secondary schools.

EDU 705. Sociology of Education. (3 h)
Study of contemporary society and education, including goals and values, institutional culture, and the teaching/learning process.

EDU 707. Educational Policy and Practice. (3 h)
This course explores the philosophical, historical and sociological foundations of education, including analysis of contemporary accountability systems.

EDU 708. School and Society. (3 h)
Study of continuity and change in educational institutions, including analysis of teachers, students, curriculum, assessment and evaluation, and contemporary problems and reform movements.

EDU 711. Reading Theory and Practice. (3 h)
Study of current reading theory and considerations of its application in the teaching of reading, grades K-12.

EDU 712. Learning and Cognitive Science. (3 h)
This course explores key theories and principles of cognition related to development, learning, andmotivation, with a focus on the implications for designing and implementing effective learning experiences.

EDU 713. Classroom Climate: Classroom Management and Conflict Resolution. (3 h)
This course focuses on the development and maintenance of a safe, orderly, and respectful classroom environment in conjunction with advanced pedagogical strategies. Students learn classroom management and conflict resolution techniques while considering their own teaching practices.

EDU 714. Advanced Content Pedagogy. (3 h)
This course assists students in developing skills for content-specific teaching of critical thinking and problem solving while building upon existing pedagogical content knowledge through collaboration that is rooted in current practice, and addressing state and national standards.

EDU 715. Action Research. (3 h)
Individual planning for action research study on a specific pedogogical topic in a school setting. Includes definition of research problem, literature review, and proposal for collection of field data, and reporting of results.

EDU 716. Professional Growth Seminar. (3 h)
Students will provide reflections on their teaching experiences, report the results of their action research, and define their professional goals.

EDU 717. Instructional Design, Assessment and Technology. (3 h)
Introduction to contemporary technologies and their applications for supporting instruction, assessment, professional practice, and school leadership.

EDU 718. Advanced Multimedia Technology in Education. (3 h)
This course develops advanced technology skills and knowledge of how to incorporate technology tools into pedagogical practice through a variety of assignments including an implementation project.

EDU 721. Educational Research. (3 h)
Theory, construction, and procedures of empirical research on teaching and learning. Analysis and evaluation of research studies.

EDU 723. Educational Statistics. (3 h)
Descriptive, inferential, and nonparametric statistical procedures involved in educational research. Computer methods for statistical analysis.

EDU 725. Action Research II. (1 h)
Reporting of results of action research study on pedagogical topic. Includes oral and writen presentations.

EDU 730L. Service Learning: Tutoring. (1 h)
Practical experiences in classrooms with focus on tutoring and assisting with preparation for standardized testing. Includes field work and reflection. Pass/Fail only.

EDU 731. Foundations of Curriculum Development. (3 h)
Philosophical, psychological, and social influences on the school curriculum. Examination of both theoretical and practical curriculum patterns for the modern school. Processes of curriculum development, including the leadership function of administration and research.

EDU 733. Supervision of Instruction. (3 h)
Analysis of various techniques of supervision: orientation of teachers, in-service education, classroom observation, individual follow-up conferences, ways to evaluate instruction, and methods for initiating changes.

EDU 735. Assessment of Teaching and Learning. (3 h)
This course focuses on the assessment of learning from a theoretical and practical perspective. It includes an understanding of formative and summative assessments, traditional and non-traditional assessments, standardized testing, and the interpretation and applicaiton of test data.

EDU 745. Advanced Diverse Learners. (3 h)
This course explores advanced issues related to the multifaceted nature of diversity in today's classrooms, with particular attention to English learners, exceptional children, and students from culturally and linguistically diverse backgrounds.

EDU 747. Research and Trends in the Teaching of Foreign Languages. (3 h)
Study of current trends and issues in foreign language education. Research topics include language and linguisitics, culture, and technology.

EDU 751. Adolescent Psychology. (3 h)
Introduction to theories of adolescent psychology as related to teaching and counseling in various settings. Readings emphasize researchers' suggestions for parenting, teaching, and counseling adolescents between the ages of 13 and 19.

EDU 758. Studies in Educational Leadership. (3 h)
This course includes examination of contemporary leadership theory and its various applications in education. It includes field work and reflection. (Service Learning)

EDU 764. Seminar in Curriculum and Instruction. (3 h)
Exploration of special topics in the field of curriculum and instruction.

EDU 781. Methodology and Research. (3 h)
Advanced study of the methods and materials of a specific discipline (English, French, Spanish, social studies, mathematics, science) in the curriculum with special attention directed to the basic research in the discipline. Includes 20 hours field experience/project.

EDU 783. Readings and Research in Education. (1-3 h)
Independent study and research on topics relevant to the student's field of concentration which may include a special reading program in an area not covered by other courses or a special research project. Supervision by faculty members. Hours of credit to be determined prior to registration.

EDU 784. Research in Writing. (3 h)
Investigation of selected topics related to the writing process.

EDU 785. The Teaching of Writing. (3 h)
Examination of the theories and methods of instruction of writing.

EDU 787. Teaching Advanced Placement. (2-3 h)
An investigation of the content of and the pedagogy appropriate to advanced placement courses in the various disciplines. Summer only.

EDU 788. Teaching Foreign Languages in the Elementary Grades. (2 h)
Intensive period of observation and instruction in an elementary school setting with a foreign language specialist. Methods for development of listening, speaking, reading, writing, and cultural awareness using content-based instruction and thematic units.

English (ENG)

ENG 601. Individual Authors. (3 h)
Study of selected work from an important American or British author. May be repeated once for credit.

ENG 602. Ideas in Literature. (3 h)
Study of a significant literary theme in selected works. May be repeated when the course is taught by a different professor on a different topic.

ENG 604. History of the English Language. (3 h)
Survey of the development of English syntax, morphology, and phonology from Old English to the present, with attention to vocabulary growth.

ENG 605. Old English Language and Literature. (3 h)
Introduction to the Old English language and a study of the historical and cultural background of Old English literature, including Anglo-Saxon and Viking art, runes, and Scandinavian mythology. Readings from Beowulf and selected poems and prose.

ENG 608. Beowulf. (3 h)
This course offers an intensive study of the poem, with emphasis on language, translation skills and critical contexts.

ENG 609. Modern English Grammar. (3 h)
A linguistics approach to grammar study. Includes a critical exploration of issues such as grammatical change and variation, the origins and effects of grammar prescriptions/proscriptions, the place of grammar instruction in education, and the politics of language authority.

ENG 610. The Medieval World. (3 h)
Examines theological, philosophical and cultural assumptions of the Middle Ages through the reading of primary texts. Topics include Christian providential history, drama, devotional literature, the Franciscan controversy, domestic life and Arthurian romance.

ENG 611. The Legend of Arthur. (3 h)
The origin and development of the Arthurian legend in France and England with emphasis on the works of Chretien de Troyes and Sir Thomas Malory.

ENG 612. Medieval Poetry. (3 h)
The origin and development of poetic genres and lyric forms of medieval vernacular poetry.

ENG 613. The Roots of Song. (3 h)
Interdisciplinary investigation of poetry and song in the Middle Ages and early Renaissance. Study of the evolution of poetic and musical genres and styles, both sacred and secular. Students must complete a project or projects on the technical or theoretical aspects of early song.

ENG 615. Chaucer. (3 h)
Emphasis on The Canterbury Tales and Troilus and Criseyde, with some attention to minor poems. Consideration of literary, social, religious, and philosophical background.

ENG 620. British Drama to 1642. (3 h)
British drama from its beginnings to 1642, exclusive of Shakespeare. Representative cycle plays, moralities, Elizabethan and Jacobean tragedies, comedies, and tragicomedies.

ENG 623. Shakespeare. (3 h)
Thirteen representative plays illustrating Shakespeare's development as a poet and dramatist.

ENG 625. 16th-Century British Literature. (3 h)
Concentration on the poetry of Spenser, Sidney, Shakespeare, Wyatt, and Drayton, with particular attention to sonnets and The Faerie Queene.

ENG 626. Studies in English Renaissance Literature. (3 h)
Selected topics in Renaissance literature. Consideration of texts and their cultural background. May be repeated once for credit pending approval of instructor.

ENG 627. Milton. (3 h)
The poetry and selected prose of John Milton with emphasis on Paradise Lost.

ENG 628. 17th-Century British Literature. (3 h)
Poetry of Donne, Herbert, Vaughan, Marvel, Crashaw, prose of Bacon, Burton, Browne, Walton. Consideration of religious, political, and scientific backgrounds.

ENG 630. Restoration and 18th-Century British Literature. (3 h)
Representative poetry and prose, exclusive of the novel, drawn from Addison, Steele, Defoe, Swift, Pope, Johnson, and Boswell. Consideration of cultural backgrounds and significant literary trends.

ENG 633. Jane Austen. (3 h)
An intensive study of the works of the British novelist Jane Austen, and her cultural contexts.

ENG 635. Eighteenth-Century British Fiction. (3 h)
Primarily the fiction of Defoe, Richardson, Fielding, Smollett, Sterne, and Austen.

ENG 636. Restoration and Eighteenth-Century British Drama. (3 h)
British drama from 1660 to 1780, including representative plays by Dryden, Etherege, Wycherley, Congreve, Goldsmith, and Sheridan.

ENG 637. Studies in 18th-Century British Literature. (3 h)
Selected topics in 18th-century literature. Consideration of texts and their cultural background.

ENG 638. Studies in Gender and Literature. (3 h)
Thematic and/or theoretical approaches to the study of gender in literature.

ENG 639. Studies in Sexuality and Literature. (3 h)
Thematic and/or theoretical approaches to sexuality within literary studies.

ENG 640. Studies in Women and Literature. (3 h)
Women writers in society. May be repeated when the course is taught by a different professor on a different topic.

ENG 641. Literature and the Environment. (3 h)
This course studies the relationship between environmental experience and literary representation.

ENG 644. Studies in Poetry. (3 h)
Selected topics in poetry. May be repeated when the course is taught by a different professor on a different topic.

ENG 645. Studies in Fiction. (3 h)
Selected topics in fiction. May be repeated when the course is taught by a different professor on a different topic.

ENG 646. Studies in Theatre. (3 h)
Selected topics in drama. May be repeated when the course is taught by a different professor on a different topic.

ENG 647. Internship in the Major. (1.5 h)
Internship that involves both hands-on experience and academic study. Students will partner with a literature faculty member to integrate work in the community and engagement with his or her academic plan of study.

ENG 648. English Studies and the Professions. (1.5 h)
A practicum course focused on career design and career planning, specific to career options in humanities fields. The course will broaden awareness of career opportunities available to English graduate students. Pass-fail only. Cannot be repeated.

ENG 650. British Romantic Poets. (3 h)
A review of the beginnings of Romanticism in British literature, followed by a study of Wordsworth, Coleridge, Byron, Keats, and Shelley; collateral reading in the prose of the period.

ENG 651. Studies in Romanticism. (3 h)
Selected topics in European and/or American Romanticism with a focus on comparative, interdisciplinary, and theoretical approaches to literature.

ENG 653. Nineteenth-Century British Fiction. (3 h)
Representative major works by Dickens, Eliot, Thackeray, Hardy, the Brontes, and others.

ENG 654. Victorian Poetry. (3 h)
A study of the Brownings, Tennyson, Hopkins, and Arnold or another Victorian poet.

ENG 656. Literature of the Caribbean. (3 h)
Readings include significant works by authors from the Caribbean and authors writing about the Caribbean. Critical, historical, and cultural approaches are emphasized. All texts are in English.

ENG 657. Studies in Chicano/a Literature. (3 h)
Writings by Americans of Mexican descent in relation to politics and history. Readings in literature. literary criticism, and socio-cultural analysis.

ENG 658. Postcolonial Literature. (3 h)
A survey of representative examples of postcolonial literature from geographically diverse writers, emphasizing issues of politics, nationalism, gender, and class.

ENG 659. Studies in Postcolonial Literature. (3 h)
Examination of themes and issues in postcolonial literature, such as: globalization, postcolonialism and hybridity, feminism, nationalism, ethnic and religious conflict, the impact of the Cold War, and race and class.

ENG 660. Studies in Victorian Literature. (3 h)
Selected topics such as development of genres, major authors and texts, cultural influences. Reading in poetry, fiction, autobiography, and other prose.

ENG 661. Literature and Science. (3 h)
Literature of and about science. Topics vary and may include literature and medicine, the two-culture debate, poetry and science, nature in literature, the body in literature.

ENG 662. Irish Literature in the 20th-Century. (3 h)
Study of modern Irish literature from the writers of the Irish Literary Renaissance to contemporary writers. Course consists of overviews of the period as well as specific considerations of genre and of individual writers.

ENG 663. Studies in Modernism. (3 h)
Selected issues in Modernism. Interdisciplinary, comparative, and theoretical approaches to works and authors.

ENG 664. Studies in Literary Criticism. (3 h)
Consideration of certain figures and schools of thought significant in the history of literary criticism.

ENG 665. Twentieth-Century British Fiction. (3 h)
A study of Conrad, Ford, Forster, Joyce, Lawrence, Woolf and later British writers, with attention to their social and intellectual backgrounds.

ENG 666. James Joyce. (3 h)
The major works by Joyce, with an emphasis on Ulysses.

ENG 667. Twentieth-Century English Poetry. (3 h)
A study of 20th-century poets of the English language, exclusive of the U.S. Poets will be read in relation to the literary and social history of the period.

ENG 668. Studies in Irish Literature. (3 h)
The development of Irish literature from the eighteenth century through the early twentieth century in historical perspective, with attention to issues of linguistic and national identity.

ENG 669. Modern Drama. (3 h)
Main currents in modern drama from 19th-century realism and naturalism through symbolism and expressionism. After an introduction to European precursors, the course focuses on representative plays by Wilde, Shaw, Synge, Yeats, O'Neill, Eliot, Hellman, Wilder, Williams, Hansberry, and Miller.

ENG 670. American Literature to 1820. (3 h)
Origins and development of American literature and thought in representative writing of the Colonial, Revolutionary, and Federal periods.

ENG 671. American Ethnic Literature. (3 h)
Introduction to the field of American Ethnic literature, with special emphasis on post World War II formations of ethnic culture: Asian American, Native American, African American, Latino, and Jewish American. The course highlights issues, themes, and stylistic innovations particular to each ethnic group and examines currents in the still developing American culture.

ENG 672. American Romanticism. (3 h)
Studies of Romanticism in American literature. Focus varies by topic and genre, to include such writers as Emerson, Thoreau, Hawthorne, Melville, Whitman, and Dickinson.

ENG 673. Literature and Film. (3 h)
Selected topics in the relationship between literature and film, such as adaptations of literary works, the study of narrative, and the development of literary and cinematic genres.

ENG 674. American Fiction before 1865. (3 h)
Novels and short fiction by such writiers as Charles Brockden Brown, James Fenimore Cooper, Wahington Irving, Edgar Allan Poe, Nathaniel Hawthorne, Herman Melville, Harriet Beecher Stowe, and Rebecca Harding Davis.

ENG 675. American Drama. (3 h)
An historical overview of drama in America, covering such playwrights as Boucicault, O'Neill, Hellman, Wilder, Williams, Inge, Miller, Hansberry, Albee, Shepard, Norman, Mamet, and Wilson.

ENG 676. American Poetry before 1900. (3 h)
Readings and critical analysis of American poetry from its beginnings, including Bradstreet, Emerson, Longfellow, Melville, and Poe, with particular emphasis on Whitman and Dickinson.

ENG 677. American Jewish Literature. (3 h)
Survey of writings on Jewish topics or experiences by American Jewish writers. Explores cultural and generational conflicts, responses to social change, the impact of the Shoah (Holocaust) on American Jews, and the challenges of language and form posed by Jewish and non-Jewish artistic traditions.

ENG 678. Literature of the American South. (3 h)
Study of Southern literature from its beginnings to the present, with emphasis upon such major writers as Tate, Warren, Faulkner, O'Connor, Welty, and Styron.

ENG 679. Literary Forms of the American Personal Narrative. (3 h)
Reading and critical analysis of autobiographical texts in which the ideas, style, and point of view of the writer are examined to demonstrate how these works contribute to an understanding of pluralism in American culture. Representative authors include Douglass, Brent, Hurston, Wright, Kingston, Angelou, Wideman, Sarton, Hellman, and Dillard.

ENG 680. American Fiction from 1865 to 1915. (3 h)
Study of such writers as Twain, James, Howells, Crane, Dreiser, Wharton, and Cather.

ENG 681. Studies in African American Literature. (3 h)
Reading and critical analysis of selected fiction, poetry, drama, and other writings by American authors of African descent. May be repeated once for credit if topic varies.

ENG 682. Modern American Fiction, 1915 to 1965. (3 h)
Includes such writers as Cather, Lewis, Hemingway, Fitzgerald, Faulkner, Dos Passos, Wolfe, Baldwin, Ellison, Agee, O'Connor, Styron, Percy, and Pynchon.

ENG 685. Twentieth-Century American Poetry. (3 h)
Readings of modern American poetry in relation to the literary and social history of the period.

ENG 686. Directed Reading. (1-3 h)
A tutorial in an area of study not otherwise provided by the department; granted upon departmental approval of petition presented by a qualified student.

ENG 687. African-American Fiction. (3 h)
Selected topics in the development of fiction by American writers of African descent. May be repeated once for credit if topic varies.

ENG 689. African-American Poetry. (3 h)
Readings of works by American poets of African descent in theoretical, critical, and historical contexts.

ENG 690. The Structure of English. (3 h)
Introduction to the principles and techniques of modern linguistics applied to contemporary American English.

ENG 691. Studies in Postmodernism. (3 h)
Interdisciplinary, comparative, and theoretical approaches to works and authors.

ENG 693. Multicultural American Drama. (3 h)
Examines the dramatic works of playwrights from various racial and ethnic communities such as Asian American, African American, and Latino. Includes consideration of issues, themes, style and form.

ENG 694. Contemporary Drama. (3 h)
Considers experiments in form and substance in plays from Godot to the present. Readings cover such playwrights as Beckett, Osborne, Pinter, Stoppard, Churchill, Wertenbaker, Albee, Shepard, Mamet, Wilson, Soyinka, and Fugard.

ENG 695. Contemporary American Literature. (3 h)
Study of post-World War II American poetry and fiction by such writers as Bellow, Gass, Barth, Pynchon, Morrison, Ashbery, Ammons, Bishop, and Rich.

ENG 696. Contemporary British Fiction. (3 h)
Study of the British novel and short story, with particular focus on the multicultural aspects of British life, including works by Rushdie, Amis, Winterson, and Ishiguro.

ENG 700. Teaching Internship. (1.5 h)
An internship for the observation and practice of undergraduate pedagogy, placing an MA student into a core literature, writing, or creative writing course taught by a permanent faculty member, typically in the first semester of the student's second year. Arranged by permission or invitation of the supervising faculty member. Must be taken as an overload in addition to the coursework for the degree. May be repeated for credit for a maximum of 3 hours.

ENG 701. Individual Authors. (3 h)
Study of selected works from an important American, English, or Global Anglophone author.

ENG 702. Ideas in Literature. (3 h)
Study of a significant literary theme in selected works. May be repeated for credit if topic varies.

ENG 703. Introduction to Composition Studies. (3 h)
This graduate seminar offers an introduction to the field of Composition Studies (also known as Composition-Rhetoric). Students examine the field's historical perspectives, research traditions, guiding theories and constructs, classroom practices, and approaches to writing assessment.

ENG 704. Studies in Rhetorical Theory and Criticism. (3 h)
In this graduate seminar, students explore major issues and perspectives in rhetorical theory, including histories of rhetoric, elements of rhetorical criticism, and methods of rhetorical analysis. May be repeated once.

ENG 705. Special Topics in Writing Studies. (3 h)
In this graduate seminar, students examine significant writing theories and practices focused on one area of study within the international field of Writing Studies. May be repeated once.

ENG 707. Workshop in Prose. (3 h)
This graduate workshop is meant to improve and consolidate prose-writing skills and expand artistic ambitions, preparing students for further study (an MFA or PhD program) or a career in writing, editing, or teaching. May be repeated once.

ENG 708. Workshop in Poetry. (3 h)
This graduate workshop is meant to improve and consolidate poetry-writing skills and expand artistic ambitions, preparing students for further study (an MFA or PhD program) or a career in writing, editing, or teaching. May be repeated once.

ENG 709. Special Topics in Creative Writing. (3 h)
This graduate workshop is meant to develop students' creative writing skills in one or more genres in the context of a particular topic, as well as to expand artistic ambitions and prepare students for further study (an MFA or PhD program) or a career in writing, editing, or teaching. May be repeated once.

ENG 710. Early Medieval Narrative. (3 h)
A variety of forms of early medieval narrative (history, saga, chronicle, poetry, hagiography), with a focus on issues of genre and narrative form, connections between story and history, and the text's relation to the culture that produced it. Emphasis is on interdisciplinary viewpoints (artistic, archaeological, geographic), and on contemporary narrative theory.

ENG 711. Arthurian Legend. (3 h)
Emphasis is on the origin and developments of the Arthurian legend in England and France, with primary focus on Malory's Le Morte d'Arthur. Attention to social and intellectual backgrounds.

ENG 712. Studies in Medieval Literature: Romance and Identity. (3 h)
A diverse corpus of medieval poetry, both lyric and narrative, is explored in an effort to trace the origin and evolution of the idea and meaning of "romance," a term signifying, for the medieval audience, narrative poetry in the vernacular, and, for our purposes, that uniquely new concept of ennobling love that emerged in the 12th century.

ENG 715. Studies in Chaucer. (3 h)
Emphasis on selected Canterbury Tales, Troilus and Criseyde, and the longer minor works, with attention to social, critical, and intellectual background. Lectures, reports, discussions, and a critical paper.

ENG 720. Renaissance Drama. (3 h)
Using an historical approach, this seminar examines the relationship between the theater as an institution and centers of authority during the Tudor and Stuart periods. The plays—tragedies, comedies, tragicomedies—are approached as the products of a dynamic exchange between individual authors and the larger political and social concerns of the period.

ENG 721. Studies in Spenser. (3 h)
Emphasis on The Faerie Queene; attention to the minor works; intellectual and critical background. Lectures, discussions, and class papers.

ENG 722. Studies in 16th-Century British Literature. (3 h)
Introduction to critical and scholarly methodology for the study of the literature; particular emphasis on Spenser's Faerie Queene and Sidney's Arcadia.

ENG 723. Studies in Shakespeare. (3 h)
Representative text from all genres, examined in light of critical methodologies in the field of Shakespeare studies. Emphasis is on reading primary sources as well as on discussion of the impact that historical, cultural, and religious developments had on Shakespeare, the theater, and the thematics of his plays.

ENG 725. Studies in 17th-Century British Literature. (3 h)
Non-dramatic literature of the 17th century, exclusive of Milton. Emphasis on selected major writers. Lectures, discussions, and presentation of studies by members of the class.

ENG 727. Studies in Seventeenth-Century British Literature: Primarily Milton. (3 h)
The work of John Milton, primarily Paradise Lost, within its cultural environment. Some attention to connections between Milton's writings and that of his contemporaries.

ENG 729. Early Modern Literature. (3 h)
Introduction to Early Modern literature, spanning a variety of genres, periods, and regions and including historical contexts, critical methodologies, and secondary criticism in Early Modern studies.

ENG 733. 18th-Century British Fiction. (3 h)
A study of two major British novelists of the 18th century. Lectures, reports, critical papers. Authors for study chosen from the following: Defoe, Richardson, Fielding, Smollet, and Austen.

ENG 737. Studies in Restoration and Eighteenth Century British Literature. (3 h)
Selected topics in Restoration and 18th-century literature. Consideration of texts and their cultural background.

ENG 740. Studies in Gender and Literature. (3 h)
An examination of selected writers and/or theoretical questions focusing on issues of gender.

ENG 741. Studies in Sexuality and Literature. (3 h)
Thematic and/or theoretical approaches to sexuality within literary studies.

ENG 743. Nineteenth-Century British Fiction. (3 h)
Study of one or more major British novelists of the 19th century. Lectures, reports, discussions, and a critical paper. Authors for study chosen from the following: Austen, Dickens, Thackeray, Eliot, and Hardy.

ENG 745. British Poetry of the 19th and 20th Centuries. (3 h)
Study of several British poets chosen from the major Romantics, Tennyson, Browning, Hardy, and Yeats.

ENG 746. Studies in British Romanticism. (3 h)
Examination of major writers, topics, and/or theoretical issues from the late 18th and early 19th centuries.

ENG 757. American Poetry. (3 h)
Studies of the poetry and poetic theory of three major American writers in the 19th and 20th centuries. Writers chosen from the following: Whitman, Dickinson, Frost, Eliot, Stevens, or Williams. Discussions, reports, and a critical paper.

ENG 758. Studies in Modern Poetry. (3 h)
Theoretical issues and themes in 20th-century poetry.

ENG 759. Studies in Postcolonial Literature. (3 h)
Examination of themes and issues in postcolonial literature and/or theory, such as: globalization, identity and hybridity, feminism, nationalism ethnic and religious conflict, the impact of neo-imperialism and economic policy, and race and class.

ENG 760. Studies in Victorian Literature. (3 h)
Selected topics such as development of genres, major authors and texts, and cultural influences of Victorian Literature. Readings in poetry, fiction and autobiography, and other prose.

ENG 763. Studies in Modernism. (3 h)
ENG 763 Studies in Modernism This course will examine elected issues in Modernism, from interdisiplinary, comparative, and theoretical approaches.

ENG 765. Literary Criticism. (3 h)
Review of historically significant problems in literary criticism, followed by study of the principal schools of 20th-century critical thought. Lectures, reports, discussions, and a paper of criticism.

ENG 766. Studies in 20th-Century British Literature. (3 h)
Examination of major writers, topics, and/or theoretical issues in 20th-century British literature. In addition to fiction, the course focuses on drama, theory, prose readings, and poetry.

ENG 767. 20th-Century British Fiction. (3 h)
Study of one or more of the major British novelists of the 20th century. Authors chosen from among the following: Conrad, Ford, Forster, Joyce, Lawrence, or Woolf.

ENG 768. Irish Literature. (3 h)
Study of major themes, theories, individual authors, or periods, which might include discussions of mythology, folklore, landscape, poetics, narrative strategies, gender, and politics.

ENG 770. Studies in American Literature. (3 h)
Introduction to studies in American literatures, spanning a variety of genres, periods, and regions (U.S., Black Atlantic, Caribbean, Central American, South American, and hemispheric literatures), including historical contexts, critical methodologies, and secondary criticism in the field.

ENG 771. American Ethnic Literature. (3 h)
Examination of how ethnic writers narrate cultural histories and respond to and represent the ambiguity of cultural location. Literary topics include slavery, exile, the Holocaust, immigration, assimilation, and versions of the American Dream.

ENG 772. Studies in American Romanticism. (3 h)
Writers of the mid-19th century, including Emerson, Thoreau, Hawthorne, and Melville.

ENG 774. American Fiction Before 1865. (3 h)
A study of novels and short fiction by such writers as Charles Brockden Brown, James Fenimore Cooper, Washington Irving, Edgar Allan Poe, Nathaniel Hawthorne, Herman Melville, Harriet Beecher Stowe, and Rebecca Harding Davis.

ENG 776. American Poetry Before 1900. (3 h)
Close reading and critical analysis of selected American poets, such as Bryant, Longfellow, Poe, Emerson, Whitman, and Dickinson.

ENG 779. Autobiographical Voices: Race, Gender, Self-Portraiture. (3 h)
Using an historical and critical approach, this seminar examines autobiography as an activity which combines history, literary art, and self-revelation. Lectures, reports, discussions, a critical journal, a personal narrative, and a critical paper. Authors for study chosen from the following: Douglass, Brent, Hurston, Wright, Angelou, Crews, Dillard, Moody, Malcolm X, Kingston, Wideman, or Sarton.

ENG 780. Studies in American Fiction from 1865 to 1915. (3 h)
Study of the principal fiction of one or more major American writers of the late 19th and early 20th centuries. Lectures, seminar reports, and a research paper. Authors for study chosen from the following: Twain, James, Howells, Adams, Crane, Dreiser, Wharton, or Cather.

ENG 781. African-American Literature and the American Tradition. (3 h)
Critical readings of selected works of major American writers of African descent within the contexts of the African-American and American literary and social traditions. Covers such genres as autobiography, fiction, drama, and poetry. Lectures, reports, discussions, and a critical paper.

ENG 782. Studies in American Fiction from 1915 to 1965. (3 h)
Study of the principal fiction of one or more major American writers of the 20th century. Writers are chosen from the following: Cather, Lewis, Hemingway, Fitzgerald, Faulkner, Dos Passos, Wolfe, Baldwin, Ellison, Agee, O'Connor, Percy, or Pynchon.

ENG 783. Contemporary American Fiction. (3 h)
Seminar devoted to the close study of some of the most important novels produced in the United States since World War II.

ENG 784. Contemporary American Poetry. (3 h)
Seminar devoted to the close study of some of the most important poems written in America since World War II.

ENG 786. Directed Reading. (1-3 h)
A tutorial in an area of study not otherwise provided by the department; granted upon departmental approval of petition presented by a qualified student.

ENG 787. Introduction to Graduate Studies I. (1.5 h)
Introduces students to the expectations and resources of graduate study in English. Emphasis on scholarly habits, research orientations, and building a community of peers.

ENG 788. Introduction to Graduate Studies II. (1.5 h)
Introduces students to the scholarly practices, research tools, and professional expectations of graduate study in English. Emphasis on reading and writing at the graduate level, thesis planning, and professional development.

ENG 789. Linguistics in Literature. (3 h)
Examination of theories of grammar and attitudes toward the English language reflected in the literature of selected periods.

ENG 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

ENG 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

French (FRH)

FRH 621. Introduction to Translation. (3 h)
Introduces translation strategies through theory and practice. Emphasizes translation of a broad variety of texts, including different literary and journalistic modes. Attention is given to accuracy in vocabulary, structures, forms, and to cultural concerns.

FRH 623. Advanced Grammar and Stylistics. (3 h)
Review and application of grammatical structures for the refinement of writing techniques. Emphasizes the use of French in a variety of discourse types. Attention is given to accuracy and fluency of usage in the written language.

FRH 629. French for Business Communication. (3 h)
Introduces the use of French in everyday professional interactions. Emphasizes oral and written practices, reading, and French business culture, as well as the job search and cross-cultural awareness. Exclusively for second-language learners.

FRH 630. French for Management. (3 h)
Explores oral and written French communication and develops intercultural skills in areas such as human resources, entrepreneurship, and marketing through case studies and current events.

FRH 643. Modern French. (3 h)
Study of the features of contemporary French including colloquial French, contrasting grammar, vocabulary, and pronunciation with standard forms.

FRH 645. Language and Society. (3 h)
Introduces sociolinguistic issues relating to the French language and its role in societies around the world.

FRH 660. Cinema and Society. (3 h)
Study of French and Francophone cultures through cinema. Readings and films may include film as artifact, film theory, and film history.

FRH 661. Special Topics in French and Francophone Film Studies. (3 h)
In-depth study of particular aspects of French and/or francophone cinema. Topics may include film adaptations of literary works, cinematographic expressions of social or political issues, selected filmmakers, theories, genres, historical periods, or cinematographic trends. May be repeated for credit for a maximum of 6 hours when topics vary.

FRH 663. Trends in French and Francophone Poetry. (3 h)
Study of the development of the poetic genre with analysis and interpretation of works from each period.

FRH 664. French and Francophone Prose Fiction. (3 h)
Broad survey of prose fiction in French, with critical study of representative works from a variety of periods.

FRH 665. French and Francophone Drama. (3 h)
Study of the chief trends in French dramatic art, with reading and discussion of representative plays from selected periods: Baroque, Classicism, and Romanticism, among others.

FRH 670. Seminar in French and Francophone Studies. (3 h)
In-depth study of particular aspects of selected literary and cultural works from different genres and/or periods. Topics vary from semester to semester. May be repeated for credit for a maximum of 6 hours when topics vary.

FRH 674. Topics in French and Francophone Culture. (3 h)
Study of selected topics in French and/ or francophone culture. Works will be drawn from different fields (sociology, politics, art, history, music, cinema) and may include journalistic texts, films, historical and other cultural documents. May be repeated for credit for a maximum of 6 hours when topics vary.

FRH 675. Special Topics in French and Francophone Literature. (3 h)
Selected themes and approaches to French and francophone literature transcending boundaries of time and genre. May be repeated for credit for a maximum of 6 hours when topics vary.

FRH 681. French Individual Study. (1.5-3 h)
May be repeated for credit. P-Permission of the department.

Graduate (GRD)

GRD 700. Independent Study. (1-9 h)
This course allows an interested student to pursue a topic covered in another class in greater depth under the guidance of a faculty member. The faculty member will work with the student to clarify the expectations; usually the course requires a combination of extensive reading, tutorial sessions, and a written paper. May be repeated.

GRD 701. Special Topics. (1-9 h)
This course allows an interested student or students to pursue a topic covered in another class in greater depth under the guidance of a faculty member. The faculty member will work with the student or students to clarify the expectations; usually the course requires a combination of extensive reading, tutorial sessions, and a written paper. May be repeated for different topics.

GRD 702. Internship. (1-9 h)
The objective of this experiential course is to prepare graduate students to practice their biomedical science expertise within one of a variety of career settings. The course is appropriate for those seeking either a Master's or PhD in biomedical sciences, preparing the student for roles in pharmaceutical/biotech (research, safety, marketing), law and regulatory agencies, medical writing, science policy, and grants management, among others. Students should register for this course if their internship placement is located within the Wake Forest umbrella. Students with placement outside of the Wake Forest umbrella should register for GRAD 703. Credit hours may be adjusted based on the length of the internship. May be repeated. Satisfactory/Unsatisfactory.

GRD 703. Internship. (1-9 h)
The objective of this experiential course is to prepare graduate students to practice their biomedical science expertise within one of a variety of career settings. The course is appropriate for those seeking either a Master's or PhD in biomedical sciences, preparing the student for roles in pharmaceutical/biotech (research, safety, marketing), law and regulatory agencies, medical writing, science policy, and grants management, among others. Students should register for this course if their internship placement is located outside the Wake Forest umbrella. Students with placement inside of the Wake Forest umbrella should register for GRAD 702. Credit hours may be adjusted based on the length of the internship. May be repeated. Satisfactory/Unsatisfactory.

GRD 704. Principles of Intellectual Property Development. (2 h)
This course is specifically designed for late stage graduate students to supplement their scientific background with a greater understanding of intellectual property protection, commercialization, and start-up company formation. Numerous aspects of our knowledge-based economy will be covered including an overview of the diverse types of intellectual property protection available to protect inventions (with a focus on patents,) the technology transfer process in an academic setting, a primer of company formation and organization, and an analysis of the different agreements (including Confidential Disclosure Agreements, Material Transfer Agreements and License Agreements) necessary to move a technology from the bench to the bedside.

GRD 705. Commercializing Innovation. (3 h)
This course will explore the processes that are involved from taking an interesting and innovative idea through successful commercial or organizational application - in going from why something is a promising innovation on to how to develop a potentially successful business. It will look at product and process innovation, as well as the increasingly important area of business model innovation. There will be strong emphasis on practical application, group work and learning from experience. Guest lecturers will be used to illuminate some of the key issues in the commercialization process. Typically offered in spring terms.

GRD 706. Regulation and Reimbursement of Novel Drugs, Biologics, and Medical Devices. (3 h)
This course is an overview of the key areas of strategic clinical development, Regulatory Affairs and the FDA-imposed regulations pertinent to the product lifecycle in the pharmaceutical, biologics, and medical device industries. The course also explores the basics of market access and reimbursement as a "second approval" prior to the product entering the market. The implications for available scientific and clinical evidence in light of market access issues will be discussed and linked back to the design of successful clinical development programs. Students will gain insight into the key elements of the regulatory process and market access in various health sector industries, governmental agencies and consultancies.

GRD 707. Professional Responsibilities and Conduct I. (1 h)
Students learn to identify general and discipline-specific professional norms and obligations for the responsible practice of science. Emphasizes development of professional decision-making skills. This course or equivalent is required for Reynolda campus Master's students who will be supported on federal grants. Pass/Fail.

GRD 708. Communicating Science. (2 h)
This course is meant to train students in the best practices of taking highly technically scientific content and translating into formats that can be more easily comprehended by non-scientists and laypersons. The course will rely heavily on student presentations, often of their own research, followed by constructive critique from other class members. Typically offered in the summer term.

GRD 709. Scientific Outreach. (1 h)
This course provides hands-on engagement with teaching and educational opportunities directed at the lay public or other, non-university groups. Planning outreach events and communicating scientific concepts to the lay public are essential skills for any scientist-in-training, especially those who may be involved in academic lecturing or public policy. The scope of such activities will derive from the scientific disciplines of the students involved, but will include activities involving the informal teaching of basic and translational science concepts in the biomedical sciences and other STEM-related disciplines. Examples of such engagement include K-12 school visits, involvement in public symposia related to science for lay audiences, or any similar activity performed under faculty guidance. May be repeated for credit not to exceed 6 hours each. Satisfactory/Unsatisfactory.

GRD 710. Scientific Outreach. (1 h)
This course provides hands-on engagement with teaching and educational opportunities directed at the lay public or other, non-university groups. Planning outreach events and communicating scientific concepts to the lay public are essential skills for any scientist-in-training, especially those who may be involved in academic lecturing or public policy. The scope of such activities will derive from the scientific disciplines of the students involved, but will include activities involving the informal teaching of basic and translational science concepts in the biomedical sciences and other STEM-related disciplines. Examples of such engagement include K-12 school visits, involvement in public symposia related to science for lay audiences, or any similar activity performed under faculty guidance. May be repeated for credit not to exceed 6 hours each. Satisfactory/Unsatisfactory.

GRD 711. Introduction to College Teaching. (1 h)
Prepares graduate teaching assistants for teaching roles. Coursework includes a 1-2 day orientation introducing students to the role and responsibility of being a teaching assistant, departmental orientation to teaching in the discipline, a series of educational workshops conducted by the Teaching and Learning Center, and classroom observation. Satisfactory/Unsatisfactory.

GRD 712. Clinical Integrity and Professionalism. (2 h)
This course offers foundational ethics and integrity training to Bowman Gray graduate students focused in pre-clinical studies. This course will utilize a combination of didactic presentations and small group, problem-based learning experiences to teach students methodology for addressing future ethical concerns in clinical and research practice. The course will provide an overview of the historical context and theoretical frameworks of biomedical ethics. Emphasis will be placed on the use of case studies to discuss topics including but not limited to: the doctor-patient relationship, professionalism, the principles of biomedical ethics, informed consent, privacy and confidentiality, medical research, social factors in healthcare, and ethical issues at the beginning and end of life. This course satisfies graduation requirements for ethics training for Bowman Gray students. Satisfactory/Unsatisfactory.

GRD 713. Foundations of Scientific Integrity and Professionalism. (1 h)
A short-course designed to offer foundational ethics and integrity training to incoming Bowman Gray graduate students. Key concepts will include introduction to key professional norms in science, including, but not limited to, responsible conduct of research, new professional expectations, as well as student life. An introduction to topics, that will be further explored using case-studies in GRAD 714, will include: plagiarism, animal & human subject research, record keeping, data management, grant writing, the student and advisor relationship, laboratory dynamics, and managing conflicts of interest. Typically offered immediately following fall orientation. Satisfactory/Unsatisfactory.

GRD 714. Scientific Integrity and Professionalism. (1 h)
A small-group, problem-based learning formatted course designed to teach discipline-specific and broad, professional norms and obligations for the ethical practice of science, primarily for first-year graduate students on the Bowman Gray campus. The content will present ethical dilemmas and promote professional behavior on, but not limited to, the responsible conduct of research and the current regulatory climate with emphasis on the underlying principles that shape these concepts. Topics will include plagiarism, animal & human subject research, record keeping, data management, grant writing, the student and advisor relationship, laboratory dynamics, and managing conflicts of interest. Typically offered weekly at 2-hour discussion sections during the spring term. This course satisfies graduation requirements for ethics training for Bowman Gray students. Satisfactory/Unsatisfactory.

GRD 715. Career Planning in Biomedical Sciences. (1 h)
A weekly seminar course, primarily for first-year graduate students on the Bowman Gray campus, in which invited alumni panelists share details on career options in the biomedical sciences, typically grouped by industry, highlighting a wide range of career paths. Speakers will share details from their own experiences in preparing for their chosen career paths, and may include: undergraduate college teaching, pharmaceutical research, law careers, medical writing, science policy, and grants management, among other careers. In addition to the panel discussions, students will have the opportunity to complete self-assessment exercises to help narrow their career focus, will begin to discuss best practices in resume, curriculum vitae, cover letter writing, and interviewing skills. Recommended for all students on the Bowman Gray campus. Typically offered in fall terms.

GRD 716. Seminars in Professional Development. (1 h)
A weekly seminar course, primarily for first-year graduate students on the Bowman Gray campus, in which invited speakers give presentations organized around offering students best practices in professional behaviors on topics, including: animal and human subjects research, record keeping, authorship, grant writing, preparing talks and posters, and managing conflicts of interest. Required for PhD students on the Bowman Gray campus; recommended for MS students on the Bowman Gray campus. Typically offered in spring terms.

GRD 717. Career Planning for Graduate Students. (1 h)
This course is designed to provide graduate students with experience in all three components of the career planning process: 1) self-assessment of work related values, interests, skills; 2) exploration and research of career options 3) development of job search materials including resumes, cover letters, and other relevant materials. Recommended for all students in the Reynolda Campus programs preferably in their first year. This will be offered in online format over half a semester to allow for self-guided investment in their own career plans. Satisfactory/Unsatisfactory.

GRD 720. Topics in College-Level Teaching. (1-3 h)
Students participate in the preparation and delivery of one or more lectures, homework assignments, and examinations, and facilitate small group learning sessions. Students attend at least two professional development workshops on a variety of aspects of the educational process. P- Successful completion of the first year of coursework in a biomedical graduate training program and POI.

GRD 722. Teaching Skills and Strategies Seminar. (2 h)
Designed to provide students with formal training and development in teaching strategies and teaching scholarship. A variety of theories and pedagogies are reviewed and discussed. Students receive some practical experience in developing and delivering instructional materials and assessment tools. Meets weekly for two hours throughout the spring semester.

GRD 724. Biosafety in Research Laboratories. (3 h)
This one-term course provides an overview of the types of biohazards that may be encountered while conducting scientific research, with emphasis on laboratories, and effective methods to minimize the risks associated with those hazards. P-At least one microbiology course and laboratory experience.

GRD 725. Speaking with Confidence. (3 h)
Introduction to logic and rhetoric as well as grammar, comprehension, idioms, pronunciation, and vocabulary. Focuses on increasing self-confidence to improve speaking abilities as well as future employment opportunities.

GRD 726. Written English for Professional Graduate. (3 h)
Field-based seminar compares the barriers to market participation experienced by independent entrepreneurs cross-culturally. Free trade policies are contrasted with fair trade practices to determine why so many independent producers have trouble succeeding in a globalizing world.

Health and Exercise Science (HES)

HES 650. Human Physiology. (3 h)
A lecture course that presents the basic principles and concepts of the function of selected systems of the human body, with emphasis on the muscular, cardiovascular, pulmonary, and nervous systems.

HES 651. Nutrition in Health and Disease. (3 h)
A lecture/lab course that presents the principles of proper nutrition including an understanding of the basic foodstuffs and nutrients as well as the influence of genetics, eating behavior, and activity patterns on performance, energy balance, and weight control. Labs focus on intervention in obesity and coronary heart disease through diet analysis, methods of diet prescription, and behavior modification.

HES 652. Human Gross Anatomy. (4 h)
A lecture/lab course on the structure and function of the human body. Labs are devoted to the dissection and study of the human musculoskeletal, neuromuscular, and vascular systems.

HES 653. Physiology of Exercise. (3 h)
Lecture course that presents the concepts and applications of the physiological response of the human body to physical activity. The acute and chronic responses of the muscular and cardiorespiratory systems to exercise are examined. Other topics include exercise and coronary disease, strength and endurance training, somatotype and body composition, gender-related differences, and environmental influences. P-HES 650 or POI.

HES 660. Epidemiology. (3 h)
Introduction to basic determinants of the incidence of chronic disease in the population, and development of an understanding of individual, community, and environmental approaches to promoting healthful lifestyles in youth, adults, and elderly populations. Issues are analyzed by formal statistical modeling.

HES 670. Biomechanics of Human Movement. (3 h)
Study of the mechanical principles which influence human movement, sport technique, and equipment design.

HES 675. Advanced Exercise Physiology. (3 h)
Lecture course on the study of physiological and biochemical adaptations of the human body to exercise, with special emphasis on substrate metabolism, ventilation and respiration, oxygen transport, and muscle physiology.

HES 682. Independent Study. (1-3 h)
Literature reviews and/or laboratory research performed on an individual basis under the supervision of a faculty member.

HES 710. Clinical Internship. (3 h)
A semester experience in a community-based clinical health program. Work includes active participation with individuals and groups with clinical conditions, such as heart disease, pulmonary disease, osteoarthritis, cancer, and obesity. Focus is on multiple lifestyle intervention strategies, in conjunction with participation in physiologic monitoring of patients during therapeutic sessions.

HES 715. Experimental Design. (3 h)
Study of the various types of research relevant to health and exercise science. While attention is given to topics such as statistical treatment of data, the primary emphasis involves discussion concerning threats to internal and external validity for experimental and quasi-experimental designs. In conjunction with a sound methodological approach, practical experiences are provided in the preparation and presentation of thesis proposals.

HES 721. Data Analysis and Interpretation. (3 h)
The application of basic statistical techniques in the analysis and interpretation of data in scientific research. Topics include descriptive statistics, simple linear and multiple correlation/regression analysis, t-tests, analysis of variance and covariance, and non-parametric statistics.

HES 733. Health Psychology. (3 h)
Seminar on current topics in health psychology with a focus on wellness programs and rehabilitative medicine.

HES 761. Cardiopulmonary Disease Management. (3 h)
A lecture/lab class that examines the physiologial, pathologic, and pharmacologic considerations of managing patients with cardiovascular and pulmonary disease. Special emphasis on learning diagnostic procedures, interventions, and therapies, particularly models for cardiac and pulmonary rehabilitation.

HES 763. Advanced Biomechanics. (3 h)
An in-depth study of the mechanical principles that influence human movement. Topics include the study of kinetics, kinematics, cinematography, sport shoe design, and skeletal biomechanics. P-POI.

HES 765. Graded Exercise Testing and Exercise Prescription. (3 h)
The study of the rationale for the use of graded exercise testing in the evaluation of functional work capacity and prescription of exercise. Lectures include the analysis of different modes of evaluation: treadmill, bicycle ergometer, arm ergometer, and field testing, with the application of the results in the evaluation of normal and cardiac patients and prescription of exercise for special populations. Lab experiences include the use of electrocardiographs, ergometers, and metabolic analyzers in the assessment of functional capacity.

HES 780. Advanced Topics in Exercise and Sport Science. (3 h)
This course is divided into two or more content areas to allow an in-depth treatment of selected topics that are not a regular part of required coursework. Topics are chosen from the following areas: anatomy, biomechanics, computer analysis, multivariate statistics, and physiology of exercise. Seminar and/or lab approach.

HES 782. Independent Study in Health and Exercise Science. (1-3 h)
Literature and/or laboratory research performed on an individual basis under the supervision of a faculty member. May be repeated for credit.

HES 783. Seminar in Health and Exercise Science. (1 h)
Seminar class designed to bring graduate students and faculty together on a regular basis to discuss research proposals, research design and studies, results of research, and current topics in health and exercise science. Talks by invited or visiting speakers are included as seminar sessions. Graduate students receive reading and work assignments related to the material presented in the seminar. May be repeated for credit.

HES 784. Seminar in Health and Exercise Science. (1 h)
Seminar class designed to bring graduate students and faculty together on a regular basis to discuss research proposals, research design and studies, results of research, and current topics in health and exercise science. Talks by invited or visiting speakers are included as seminar sessions. Graduate students receive reading and work assignments related to the material presented in the seminar. May be repeated for credit.

HES 788. Advanced Clinical Internship. (3 h)
An advanced semester experience in a community-based clinical health program. Work includes training graduate and undergraduate interns, interacting with clinical faculty and other clinical staff, ensuring the safety of patients, ensuring the adherence to facility protocols, and active participation with individuals and groups with clinical conditions, such as heart disease, pulmonary disease, osteoarthritis, cancer, and obesity.

HES 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

HES 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

Hindi-Urdu (HNU)

HNU 611. Elementary Hindi-Urdu I. (3 h)
Introduction to modern Hindi-Urdu. Designed for students with no knowledge of the language. Focus is on developing reading, writing, and conversation skills for practical contexts. Instruction in the Devanagari and Nastaliq scripts and an exploration of the cultures of India and Pakistan. Fall only.

HNU 612. Elementary Hindi-Urdu II. (3 h)
Continued instruction in modern Hindi-Urdu. Students with previous background may place into this course with the instructor's permission. Focus is on developing reading, writing, and conversation skills for practical contexts. Instruction in the Devanagari and Nastaliq scripts and an exploration of the cultures of India and Pakistan. P-HNU 611.

HNU 653. Intermediate Hindi-Urdu I. (3 h)
Introduction to the Devanagari writing system used in Hindi, as well as other South Asian languages, including Nepali and Sanskrit. Includes an overview of the Hindi-Urdu sound system and language. Students with prior proficiency in spoken Hindi or Urdu may complete this course in preparation for entering Intermediate Hindi-Urdu. P-HNU 612.

HNU 701. Intermediate Hindi-Urdu II. (3 h)
Continued intermediate instruction in spoken and written Hindi-Urud. Students with previous background may place into this course with the instructors permission. Focus is on building oral and written communication skills in a range of contexts. Exploration of the cultures of India and Pakistan through discussions of authentic materials. Instruction in Devanagari and Nastaliq scripts. P-HNU 653 or POI.

HNU 730. Advanced Hindi-Urdu I. (1-3 h)
Third year of modern Hindi-Urdu. Focuses on interpreting authentic texts, films, and media, as well as developing accuracy and fluency in oral and written communication. Instruction in Devanagari and Nastaliq scrips. P-HNU 701 or POI.

HNU 731. Advanced Hindi-Urdu II. (1-3 h)
A continuation of HNU 730. P-HNU 730 or POI.

History (HST)

HST 602. Plants of Empire: Power and Pleasure. (3 h)
Study of the social, cultural, and political meaning of plants grown to finance and maintain empires since 1500. Includes analysis of both production and use of plant products like sugar, coffee, and opium.

HST 605. Medieval and Early Modern Iberia. (3 h)
Examines the variety of Christian, Muslim, and Jewish cultures that flourished on the Iberian peninsula between the years 700 and 1700. Themes include religious diversity and the imposition of orthodoxy, the formation of nation-states and empires, geographic exploration and discovery, and the economics of empire in the early modern period.

HST 606. Science, Magic, and Alchemy in Europe, 1400-1700. (3 h)
Examines scientists and magicians in medieval Europe, who developed theoretical models and practical approaches to understand and to manipulate the natural world. Looks at alchemists, who transformed matter to understand it as well as to make things for practical purposes: metals, gems, medicines, and the philosopher's stone.

HST 607. Italian Renaissance. (3 h)
Examination of the economic, political, intellectual, artistic, and social developments in the Italian world from 1350-1550.

HST 608. World of Alexander the Great. (3 h)
An examination of Alexander the Great's conquests and the fusion of Greek culture with those of the Near East, Central Asia, and India. Special emphasis placed on the creation of new political institutions and social customs, modes of addressing philosophical and religious issues, as well as the achievements and limitations of Hellenistic Civilization.

HST 609. European International Relations since World War I. (3 h)
Surveys European international relations in the 20th century beyond treaties and alliances to examine the economic, social, and demogaphic factors that shaped formal arranges between states. Covers the impact of new forms of international cooperation, pooled sovereignty, and nongovernemtal organizations on European diplomacy and internal relations.

HST 610. 20th Century Eastern Europe. (3 h)
Examination of the history of 20th century Eastern Europe, including the creation of nation-states, World War II, and the nature of Communist regimes established in the postwar period. Course includes a discussion of the collapse of the Eastern Bloc and the challenges of European intergration.

HST 612. Jews, Greeks, and Romans. (3 h)
Largely from a Jewish context, the course explores the political, religious, social and philosophical values shaped by the collision between Jews, Greeks, and Romans, from the Hellenistic Period to the Middle Ages.

HST 613. The History of European Jewry from the Middle Ages to the Present. (3 h)
Examines the Jewish historical experience in Europe from the medieval period to the Holocaust and its aftermath. Includes a consideration of social, cultural, economic and political history, and places the particular experience of Jews within the context of changes occurring in Europe from the medieval to the modern period.

HST 614. European Economic and Social History, 1700-1990. (3 h)
Changes in Europe's economic structures and how they affected Europeans' lives.Emphasizes how economic forces interacted with social and institutional factors.

HST 615. Greek History. (3 h)
The development of ancient Greek civilization from the Bronze Age to the end of the Classical Period stressing social institutions, individual character, and freedom of social choice within the framework of cultural, political, and intellectual history.

HST 616. Rome: Republic and Empire. (3 h)
Survey of Roman history and civilization from its beginning to about 500 C.E., with emphasis on the conquest of the Mediterranean world, the evolution of the Republican state, the growth of autocracy, the administration of the empire, and the interaction between Romans and non-Romans.

HST 617. The French Revolution and Napoleonic Empire. (3 h)
The revolution and wars that constitute one of the pivotal points in modern history.

HST 618. Weimar Germany. (3 h)
Art, literature, music, and film of Weimar Germany, 1919-1933, in historical context.

HST 619. Poland and the Baltic Region. (3 h)
Introduction to the history of Poland and the eastern Baltic littoral since 1760, covering the territory that later became Estonia, Lativia, Lithuania, and Poland; emergence of independence after World War I; the Soviet experience; and re-establishment of independence during the break-up of the Soviet Union.

HST 620. Write and Record! Diaries and Memoirs of the Nazi Holocaust. (3 h)
Examines a wide range of diaries and memoirs to illuminate the historical period of Nazism, seeking to understand daily life under Nazi rule, the brutality of the perpetrators, and the many responses of Jews forced to live in such circumstances. From Anne Frank's account of hiding in an Amsterdam secret annex to Art Spiegelman's graphic novel of his parent's experience in Auschwitz, the diaries and memoirs of Holocaust victims provide an invaluable resource for historians.

HST 621. Zionism, Palestine, and Israel in Historical Perspective. (3 h)
Investigates both the European causes of Zionism and the Middle Eastern consequences of the establishment of the State of Israel. Through our discussion, students will be introduced to many of the scholarly debates over the history, practices, and consequences of Zionism, the State of Israel, and the Israel-Palestinian conflict.

HST 622. Migrants and Refugees in Modern History. (3 h)
Explores forced migrations and the development of the concepts of refuge from the 16th to 20th centuries, drawing on cases from around the world. Considers how states, empires, and non-governmental organizations have handled migrants and refugees, as well as the lived experiences of displaced individuals.

HST 623. Wives, Writers, and Witches: Women and Gender in Early Modern Europe, 1500-1800. (3 h)
Examines the diverse range of women's experiences in early modern Europe, using gender as a lens for analyzing transformations in households, culture, society, and politics between 1500 and 1800. Considers how women negotiated dominant gender ideals and how they contributed to and were impacted by the renaissance and Reformation, empire, the Scientific Revolution, the Enlightenment, and political revolution.

HST 624. Fashion in the Eighteenth Century. (3 h)
Examines the relationship between consumer culture and democratic politics in the eighteenth-century, focusing on Britain, North America, France, and Haiti. Considers laws regulating dress; the relationship between democracy, political resistance, and costume; the construction of political allegiance through clothes and symbols; and the ways fashion mediated ideas about empire, race, and gender.

HST 625. English Kings, Queens, and Spectacle. (3 h)
Examines how English royal authority was created, legitimized, performed, and challenged between the reigns of Henry VIII and George III through ritual, image, and text. Topics include: gender and power; court culture; the press and political revolution; popular politics and propaganda; graphic satire; and the commercialization of politics.

HST 627. Profit and Power in Britain. (3 h)
Examines economic ideas and British society between 1688 and 1914. Topics include connections between consumption and identity; the relationship of morals to markets; the role of gender and the household; knowledge, technology, and the industrial revolution; and the place of free trade in the political imagination.

HST 628. History of the English Common Law. (3 h)
Study of the origins and development of the English common law and its legacy to modern legal processes and principles.

HST 631. The United States in Age of Empire, 1877-1919. (3 h)
Explores the late 19th and early 20th centuries when the United States joined in the global scramble for empire. Examines the domestic and international causes of American imperial expansion; the modes of rule that the U.S. exercised in its formal and informal possessions; and the political and intellectual debates at home and abroad about America's expansion as a world power.

HST 632. The United States and the Global Cold War. (3 h)
Considers United States efforts to secure its perceived interests through "nation building" and economic development in Africa, Latin America, the Middle East, and much of Asia during the Cold War and after. Emphasizes the ideological and cultural dimensions of American intervention.

HST 633. European Diplomacy, 1848-1914. (3 h)
The diplomacy of the great powers, with some attention given to the role of publicity in international affairs. Topics include the unification of Italy and of Germany, the Bismarckian system, and the coming of World War I.

HST 634. Mystics, Monarchs, and Masses in South Asian Islam. (3 h)
An introduction to Islam through South Asian social, political, cultural, and intellectual history.

HST 635. Hindus and Muslims in India, Pakistan, and Beyond. (3 h)
Examines the shared yet different, intertwined yet separate histories of the Hindus and Muslims of modern India, Pakistan, Bangladesh, and Sri Lanka primarily over the last two centuries. Explores the checkered existence of the two communities in order to understand diversity and questions of coexistence and conflict.

HST 636. Gender in African History. (3 h)
Examines the close relationship between understandings of gender and power in African societies, with particular focus on the last several hundred years. After addressing the sources and methods scholars have used to address these topics, the course examines conceptions of gender and power in pre-colonial African societies, the impact of the colonial period on men and women, the gendered nature of nationalism and independence, and the importance of gender and power to many of Africa's post-colonial challenges.

HST 637. Women and Gender in Early America. (3 h)
History of women and gender roles from 1600 through the Civil War, including the social constructions of femininity and masculinity and their political, economic, and cultural significance.

HST 638. Sexuality, Race and Class in the U.S. since 1850. (3 h)
The history of gender relations from the late nineteenth century to the present. Analyzes the varying definitions of femininity and masculinity, the changing notions of sexuality, and the continuity and diversity of gender roles, with special attention to race, class, and ethnicity.

HST 639. Sickness and Health in American History. (3 h)
Analysis of major trends in health, sickness, and disease within the broad context of social, political, and economic developments. Examines indigenous healing; colonial medicine; emergence of hospitals and asylums; public health; medical ethics; race, class and gender issues; and natural versus high-tech approaches to health care in the 20th century.

HST 640. Social and Cultural Change in Urban Africa. (3 h)
While popular imagination suggests that the African past is largely a rural one, many of the continent's most explosive social and cultural transformations have taken place in its cities. This course examines how urban residents have worked to creatively shapre some of sub-Sahran Africa's major transformations. Major topics include the social and cultural fabric of pre-colonial African cities, the impact of colonialism on African towns, cities as sites of revolution and independence, and the contemporary conditions and challenges facing urban residents.

HST 641. Africans in the Atlantic World, 1750-1815. (3 h)
Course explores Africans' experience in the Atlantic world (Africa, Europe and the Americas) during the era of the slave trade by examining their encounters with Indians and Europeans and their adjustment to slave traders in West Africa.

HST 643. The Silk Roads. (3 h)
Explores the global exchanges across land and sea from the Bronze Age to the Early Modern Era, and their impact on the states and stateless societies connected by the Silk Road from China and Japan to the Mediterranean and the British Isles.

HST 644. Early Modernity in China. (3 h)
Explores historic transformations in Chinese economy, society, thought and culture from 1500 to 1800. These developments are placed within their local, global and comparative context. Students read a wide variety of Chinese primary sources in English translation, including philosophical treatises, literary works, diaries, and memoirs, some of which were written by Jesuit missionaries from Catholic Europe.

HST 645. Early Modern Global Encounters: China and the World, 1400-1800. (3 h)
Studies the impact of China's encounters with the wider early modern world by exploring the following questions: how did the arrival of New World silver and crops, European firearms, Catholicism, and Renaissance learning in China help transform Chinese economy, modes of warfare and empire-building, thought, and culture, and how did the global circulation of Chinese commodities, aesthetic, philosophies, and healing arts in turn shape the early modern experiences in Europe and elsewhere? All required readings are in English.

HST 647. Rise of Asian Economic Power. (3 h)
An exploration of how Japan, South Korea, and China became dominant in world economies. Focus on business practices, foreign trade, government policy, and consumer and labor markets in the process of high-speed economic growth. Concludes with examination of recent challenges of national debt, international competition, and aging societies.

HST 648. Samurai and Geisha: Fact, Film, and Fiction. (3 h)
Focuses on two well-known groups in Japanese history, the samurai (warriors) and geisha (entertainers). By analyzing historical studies and primary sources, as well as works of fiction and films about samurai and geisha, the course considers how Japanese and Western historians, novelists, and filmmakers have portrayed the two groups and by implication Japan and its history in the modern period.

HST 650. World Economic History: Globalization, Wealth and Poverty, 1500-Present. (3 h)
Explores the growth of globalization and its role in the creation of wealth and poverty in both developed and underdeveloped nations. Focus on trade, industrialization, and agricultural and technological advances in global contexts.

HST 651. The American Revolution. (3 h)
Examines the transformation that unfolded during the struggles for sovereignty in North America between 1765 and 1800. Considers the political upheavals that converted some British colonists into insurgents and explores the unlikely unification of disparate provinces into a confederated republic.

HST 652. Ten Years of Madness: The Chinese Cultural Revolution, 1966 to 1976. (3 h)
A history of the Chinese Cultural Revolution from 1966 to 1976. Examines the origins, consequences, and collective memories of the catastrophic political events and the social and cultural transformations that took place in China during the last decade of Mao's leadership.

HST 653. War and Society in Early America. (3 h)
Examines the evolution of warfare among the indigenous and colonial societies of North America between 1500 and 1800 and considers the roles of economics, class, gender, race, religion, and ideology in cultures of violence.

HST 654. The Early American Republic. (3 h)
A history of the formative generation of the United States. Considers the dramatic transformations of the constitutional, economic, and racial orders, as well as new performances in politics, national identity, gender, and culture.

HST 655. History of Nature Conservation in Latin America. (3 h)
Explores human dimensions of nature conservation in Latin America in a global perspective. It engages the historical rise of ideas about wildness and the social consequences of environmental protection, including the different implications for rural and urban areas, for resident peoples, for particular species, and for international relations. Special attention is given to the ways different cultures and societies in Central and South America and the Caribbean conserved natural resources (including forests, fields, waterways, and animals) and how conservation and ideas about conservation changed over time. Taught only in conjunction with field experience in Peru or other sites in Latin America.

HST 656. Jacksonian America, 1815-1850. (3 h)
The U.S. in the age of Jackson, Clay, Calhoun, and Webster.

HST 658. Race, Gender and the Courts. (3 h)
Examines the impact of state and federal court cases upon the evolution of race and gender relations in the U.S from 1789 to the present. Each case is placed within the political, economic and social historical context for the given time periods. Race includes Native Americans, African Americans, Asian Americans, and Latino Americans. This class will analyze government intervention, inaction, and creative interpretation.

HST 659. Trans History, Machismo, and Sex Work in Latin America. (3 h)
Explores the history of gender and sexuality across 20th century Latin America and the Caribbean. Applies new theoretical developments in gender, masculinity, and trans and queer studies to the region's history of race, revolutions, migrations, dictatorships, and social movements.

HST 660. Jewish Migrations to the Americas. (3 h)
Compares Jewish migrations to the U.S., Latin America, and the Caribbean from the colonial period to the present, focusing on the peak mobility of the 1880s-1920s. Topics include changing conceptions of identity (national, racial, ethnic, religious), class, gender, assimiilation, institutions, and relations both among Jews and between Jews and other groups.

HST 662. American Constitutional History. (3 h)
Origins of the Constitution, the controversies involving the nature of the Union, and constitutional readjustments to meet the new American industrialism.

HST 663. Law, Justice, and Reparations. (3 h)
Introduction to the global praxis of reparative and transformative justice through historical case studies from the ancient world to the present.

HST 665. Modern Native American History. (3 h)
Considers broad historical issues and debates about native American identity, experiences with and memories of colonialism, cultural preservation and dynamism, and political sovereignty from 1830 to the present. Focuses on individual accounts, tribal case studies, and popular representations of Native people.

HST 666. Historic Preservation and Conservation. (3 h)
Explores the history of the preservation and conservation movements organized to save historic buildings and landscapes in the U.S. and other nations. Examines the laws, international charters, national, statewide, and local agencies, practices, collabroations, and emerging challenges of historic preservation and conservation.

HST 667. Public History. (3 h)
Introduces students to the major issues involved in the practice, interpretation, and display of history for nonacademic audiences in public settings. Central themes include controversial historical interpretations, the role of history in popular culture, issues and aims in exhibiting history, and the politics of historical memory. Explores some of the many ways people create, convey, and contest history, major themes in community and local history, and the problems and possibilities of working as historians in public settings.

HST 668. US Environmental History. (3 h)
Focuses on human actors and actions while highlighting how the material, or natural, world impacted Americans and shaped the nation. Investigates U.S. politics, society, and culture through the lens of the environment while exploring how American defined, represented, and used their natural environment over time.

HST 669. Modern Military History. (3 h)
Making war in the modern era, with special attention to the social context of military activity.

HST 670. Topics North Carolina History. (3 h)
A general chronologial survey of North Carolina with emphasis on selected topics. May be repeated for credit if topic varies.

HST 671. Transgender History, Identity, and Politics in the U.S.. (3 h)
This course explores the experiences of and responses to transgender, gender non-conforming, and intersex (TGI) people in nineteenth- and twentieth-century America. We will examine how scientific/medical authorities, legal authorities, and everyday people have understood and responded to various kinds of gender non-conformity.

HST 672. Queer Public Histories. (3 h)
Explores how public history projects (oral histories, museums, archives, documentaries) document gay, lesbian, and queer communities in the U.S. Discusses how historical and contemporary LGBTQ stories have been collected and examines the various queer identities that emerge through this process.

HST 674. Protest and Rebellion in Latin. (3 h)
Study of the history of protest movements and rebellions in Latin America from primitive and agrarian revolts to mass working class and socialist organizations.

HST 675. Black Lives. (3 h)
Explores both the lived experience and the historical reality of African Americans. Black lives are profoundly shaped by their group experience, influenced in no small part by the role of racism. The biographical approach individuates historical figures struggling to fashion identity. Topics include character development, intimacy, gender roles, public and private personas, self-deceptions or defenses, and personal perceptions and biases. The craft of writing biography is taught throughout the semester.

HST 676. Civil Rights and Black Consciousness Movements. (3 h)
A social and religious history of the African-American struggle for citizenship rights and freedom from World War II to the present.

HST 678. Race, Memory, and Identity. (3 h)
Explores the collective memory and identity of American-Indian and African-American communitites and their response to historical trauma in their cultural imagination, spirituality, and political and social activism.

HST 680. America at Work. (3 h)
Examines the American entrepreneurial spirit within the broader context of industrial, social, and economic change from the colonial period to the present and explores the social and cultural meanings attached to work and workers, owners and innovators, businesses and technologies, management and leadership.

HST 681. Religious Utopias and the American Experience. (3 h)
Religious groups of many different origins have found in North America an open space for creating settlements that would embody their ideals. This course surveys a range of such 18th- and 19th-century communities, including Moravians, Rappites, Shakers, and the Oneida and Amana colonies.

HST 682. Religion in the Development of Higher Education. (3 h)
Examines the role of religious groups in the founding of American colleges and universities, and explores how their role has changed across history up through contemporary trends and issues. Major themes include the heritage of religion in European higher education; institutions of higher education founded by specific American religious groups; religion in the liberal arts curriculum; religious activities in student life; the relationship of colleges and universities with religious sponsors and constituents, focusing on controversies such as science and religion; the impact of universtities on liberal art colleges; and the trends toward growth and 'secularization' in the last 50 years.

HST 684. Global Outlaws in History since 1500. (3 h)
Examines the motivations, ideologies, goals, and behavior of those who have been deemed 'outlaws' to international society since 1500, including pirates, terrorists, smugglers, war criminals, and violators of copyright. Analyzes the role of power in creating the global regimes that define and target such activities.

HST 685. History of Film: Bollywood and the Making of Modern India. (3 h)
This course juxtaposes historical films made by the world's largest film industry based out ot Bombay/Mumbai with the textual primary sources and secondary historical works and seeks to understand films as both interpretations and sources of history. It also explores specific themes such as nation, gender, caste, and community characteristics that are critical to understanding modern India.

HST 687. The Last Great Muslim Empires. (3 h)
Examines, in a comparative way, central themes in the history of the Ottoman, Mughal, and Safavid Empires in the early modern period (1400-1800). Considers the ways in which Muslim rulers fostered political legitimacy, ruled over non-Muslim and heterodox subject populations, and recruited persons of diverse religious and ethnic background into state service.

HST 688. Nation, Faith and Gender in the Middle East. (3 h)
Traces the development of nationalism and its interaction with religious, transnational, and gender identitites in the Middle East in the nineteenth and twentieth centuries. Topics include Zionism, Arabism, Turkish nationalism and Islamic revivalism.

HST 689. The British Empire in the Middle East. (3 h)
Covering the period from the late eighteenth to late twentieth centuries, this course considers British involvement in the Middle East, exploring the political, economic, social, and cultural facets of imperial power, decolonization and post-colonial international relations.

HST 690. Research Seminar. (3 h)
Offered by members of the faculty on topics of their choice. A paper is required.

HST 691. Making History. (3 h)
Seminar explores how historians make history through analysis, synthesis, and interpretation. Open to all students.

HST 692. Individual Research. (3 h)
Writing of a major research paper. May be taken in lieu of HST 690. P-POI.

HST 693. American Foundations I. (3 h)
Interdisciplinary study of American art, history, literature, and music. Using its collection of American art as the basis for study, Reynolda House Museum of American Art, in cooperation with Wake Forest University, accepts a limited number of students to study with professors from various disciplines through lectures, discussions, and concerts. Includes a study tour to New York City. (Taught in summer; students enroll for both courses. Students may enroll in either HST 693 or HST 763)

HST 697. Historical Writing Tutorial. (1.5 h)
Individual supervision of historical writing to improve a project initiated in HST 690 or HST 692. P-POI.

HST 698. Individual Study. (3 h)
Project for a qualified student in an area of study not otherwise available in the department; subject to approval. Work must be equivalent to an upper-level course.

HST 699. Directed Reading. (1-3 h)
Concentrated reading in an area of study not otherwise available. May be repeated for credit if topic varies. P-POI.

HST 763. American Foundations I. (3 h)
Interdisciplinary study of American art, history, literature, and music. Using its collection of American art as the basis for study, Reynolda House Museum of American Art, in cooperation with Wake Forest University, accepts a limited number of students to study with professors from various disciplines through lectures, discussions, and concerts. Includes a study tour to New York City. (Taught in summer; students enroll for both courses. Students may enroll in either HST 693 or HST 763).

HST 765. Management of Cultural Organizations. (3 h)
The structure and management of not-for-profit institutions, with emphasis on museums, historical societies and preservation organizations, libraries, archives, and research institutions.

HST 771. Internship. (1-3 h)
A project involving supervised work in a historical organization or scholarly effort; permitted only upon approval by the graduate committee of a petition presented by a qualified student.

HST 798. Individual Study. (3 h)
A project in an area of study not otherwise available in the department; permitted upon approval by the graduate committee of a petition presented by a qualified student.

Liberal Arts Studies (LBS)

LBS 700. Prophecy and Protest: The Prophetic Voice in American Public Discourse. (3 h)
This course addresses how prophecy is a communicative act, and how prophetic speech has influenced American public discourse. Prophetic speech forms from the Hebrew Bible, traced through to American prophetic traditions such as those of the Quakers, Puritans, & Native Americans, and the use of American dissent rhetoric will be discussed. Readings will include primary texts from the Bible and American public discourse as well as important critical discussions of prophetism as a social and rhetorical phenomenon.

LBS 702. Black Light: The Novels of Toni Morrison and Gloria Naylor. (3 h)

LBS 703. The Artists: American Silent Cinema. (3 h)

LBS 704. Globalization in Contemporary World Literature. (3 h)
This course explores globalism in contemporary poetry, narrative fiction, and films from the Caribbean, South Asia, South Africa, and multi-ethnic Britain. Students will focus on how literature reflects social processes associated with globalization, become familiar with recent postcolnial literature in English, and be introduced to debates over globalizaiton. Students will also acquire skills in literary interpretation.

LBS 705. Black Religion and Radical Thought: An Intellectual and Cultural History. (3 h)
This course charts an intellectual history from antebellum America through the Civil Rights Movement. We assess several classic and contemporary texts on radical black political thought en route to an investigation of the connections between black religious thinking and political activism. We also study the complex religious voices within the American freedom struggle—whether traditional African, Muslim, or Judaeo-Christian. We will trace religion's role in the various forms and phases of the resistance through the nearly 400 years of the African American pilgrimage to secure social transformation.

LBS 706. Reading Illness Narratives. (3 h)
This Course will examine fiction, memoirs, poems, plays, films, medical journal articles, and feminist theory that represent the experience of living with (and sometimes dying of) a serious illness. From their perspectives as a psychosocial oncologist and a literary and gender studies scholar, the professors will seek to illuminate how contemporary writers depict life-threatening illness, what people living with chronic disease choose to document, and what literary and visual techniques they use. We will also consider what these artists teach others about living close to death and how gender affects the themes and strategies of illnes narratives. Emphasis will be placed on how the quality and skill of empathy appears in assigned texts and how it impacts patients, caregivers, readers, and viewers.

LBS 707. Ideas&Pract Contem Pol Protest. (3 h)
The notion that contemporary political protests lack coherent ideas and visions has become sufficiently commonplace as to warrant critical investigation. Focusing on several recent cases from both the national and international scene, our seminar will explore the following questions: What are intellectual origins of and political visions being articulated by those individuals and groups active in recent waves of protest activity? What old and new understandings of some of the central concepts of politics—such as identity, power, sovereignty, territory, government, the state, democracy, the public sphere, movement, protest, and representation—emerge from these actions and our analysis of them?.

LBS 708. Bodies, Commodities, and Global Environments. (3 h)
This course investigates human practices that bring health, commodities, and environments together on multiple spatial scales from the personal to the global. By exploring both historical and contemporaneous case studies, students will analyze how people understand and engage the natural world through specific cultural practices. The course looks into bot material connections between bodies, commodities, and environments, and conceptualizations of human relationships with non-human nature. It examines biology, capitalism, mass media, environmental knowledge, and changes to the physical world. Students will evaluate commonly deployed concepts, develop a new lexicon of spatial connections, and make meaningful comparisons between locales and cultures that span the globe.

LBS 709. Bollywood: Culture and Identity in Modern India. (3 h)

LBS 710. Herman Melville and His World. (3 h)
This course is an introduction to certain classics of world literature and to American culture in the nineteenth century. We will study the literary, biographical, historical, and societal contexts out of which Melville's important works grew, including the texts that inspired "Moby Dick," such as Homer's Odyssey, selections from the Bible, Plato's dialogues, Shakespeare, Coleridge's Rime of the Ancient Mariner, and Emerson's essays. We will also consider the major events in Melville's life; nineteenth-century debates about American identity; and the features of the U.S. literary marketplace.

LBS 711. Social Media and You: The Benefits and Burdens. (3 h)
The course will describe the development of Computer Mediated Communication from its early days, tracing the important points of inflection, and then focus on the way in which the current systems and devices allows for interactions through digital media using narbs, pointing towards the theoretical underpinning of the idea of narbs and its application.

LBS 712. Afghanistan, Pakistan, Iraq Wars and US Foreign Policy. (3 h)
This course broadly addresses the phenomena of US involvement in two wars - the Afghan War (2001-) and the Iraq Ware (2003-2011), approaching this topic from a historical and policy perspective. Owing to the on-going nature of the conflicts readings and emphasis may change as the term progresses. Readings will be drawn from books, policy reports, government documents, and journalistic sources.

LBS 713. Race, Myth, and the American Imagination. (3 h)
This course is an examination race, myth, and the American imagination. Students will interrogate how race has functioned in mythical ways, across space and time, in American history. From the ante-bellum period to the present, biblical narratives, literary texts, popular entertainment, including, journalism, television, and cinema, have shaped racial thinking in the United States. Such thinking has been internal and external to the American experience. Students will attend to the local and global import of racialized mythology. Because racial mythology is gendered, specific attention will be given to racialized myths about African- American women and men. Such a focus illuminates how racial mythology has been applied to the moral character of African- American communities. At the end of this course, students will have a heightened appreciation for the study of myth and its relation to race and the American imagination.

LBS 715. Rumor and Urban Legends. (3 h)
The purpose of this course is to allow students to explore and discuss academic literature on rumor, urban legends, gossip and myths. Our society prides itself on its rationalist perspective, but the reality is that people find and construct knowledge in ways that are idiosyncratic, but personally logical. These four related communication phenomena may serve constructive social functions even if those are not immediately obvious. The power of rumor and urban legends to capture the human imagination and influences the workings of society is profound and fascinating. The readings will draw on important studies in sociology, psychology, communication and folklore.

LBS 720. Special Topics: Language and Literature. (3 h)
Special Topics in Liberal Studies related to Language and Literature. Course emphasis will vary with instructor. May be repeated for credit if topic differs.

LBS 721. Special Topics: Media, Arts, and Rhetoric. (3 h)
Special Topics in Liberal Studies related to studies in media, art, and rhetoric. Course emphasis will vary with instructor. May be repeated fro credit if topic differs.

LBS 722. Special Topics: Politics and International Relations. (3 h)
Special topics in Liberal Studies related to politics and international relations. Course emphasis will vary with instructor. Course may be repeated for credit if the topic differs.

LBS 723. Special Topics: History, Societies, and Culture. (3 h)
Special topics in Liberal Studies related to studies in history, societies, and various cultures. Emphasis will vary with instructor. Course may be repeated for credit if the topic differs.

LBS 724. Special Topics: Philosophy and Religion. (3 h)
Special Topics in Liberal Studies related to studies in philosophy and religion. Emphasis will vary with instructor. Course may be repeated for credit if the topic differs.

LBS 725. Special Topics: Popular Culture. (3 h)
Special Topics in Liberal Studies related to studies in popular culture. Course emphasis will vary with instructor. Course may be repeated for credit if topic differs.

LBS 726. Special Topics: Urban Arts and Architectural Design. (3 h)
Special Topics in Liberal Studies related to urban arts and architecural design studies. Course empahsis will vary with instructor. Course may be repeated for credit if topic differs.

LBS 727. Special Topics: Science, Health, and Culture. (3 h)
Special Topics in Liberal Studies related to the sciences, health and culture. Course emphasis will vary with instructor. Course may be repeated for credit if the topic differs.

LBS 728. Special Topics: Fine Arts, Aesthetics, and Creativity. (3 h)
Special Topics in Liberal Studies related to the study of Fine Art and the areas of asethetics and creativity. Course emphasis will vary with instructor. Course may be repeated for credit if topic differs.

LBS 729. Special Topics: Psychology, Humanism, and Business. (3 h)
Special Topics in Liberal Studies related to the areas of psychology, humanism, and business. Course emphasis will vary with instructor. Course may be repeated for credit if topic differs.

LBS 786. Directed Study. (1-3 h)
Working with a faculty advisor, the student completes a special reading project in area not covered in regular courses or a special research project not related to the master's thesis. A student who wishes to enroll must submit the Directed Study Form, signed by the advisor, to the program director. May be repeated once for credit with the permission of the program director Staff.

LBS 790. Capstone Project. (3 h)
Capstone project options includes: 1) research paper describing and explaining tentative hypotheses based on quantitative and/or qualitative research; 2) creative work with accompanying interpretive text; 3) internship with non-profit or for-profit organization with on site supervision; 4) portfolio of M.A. work, including a retrospective paper on major learnings from student's course of study as well as two academic papers from M.A. courses taken.

LBS 791. Thesis Research. (3 h)

LBS 792. Thesis Research II. (3 h)

LBS 824. Commemoratives of the Middle Passage. (3 h)
This course examines the historical memory of the slave trade which forcibly removed more than 10 million Africans from their homes. The Middle Passage has been memorialized in films, novels, poetry, the plastic arts, exhibits, and historical monuments, especially the slave castles along the Western African coast. Major themes explored are the sensory and experiential expressions, cultural diversity, internal population dynamics, gendered relations of power, and sexual differences. The social reproduction of cultural mores with the removal of "saltwater" Africans to the Americas and the absorption of new sources of slaves in Africa will also be examined.

LBS 832. India Calling. (3 h)

LBS 853. State, Econ & Intl Competitive. (3 h)
The course explores a range of important case studies of national economic performance, including the strengths and weaknesses of leading examples of welfare capitalism, liberal capitalism, and capitalisms in which the state plays an active developmental role. We will examine the viability of welfare capitalism against the growing penchant for liberal capitalist solutions to contemporary problems of economic growth, international competitiveness and unemployment. We will also explore the impact of labor, capital, culture and the state, including an examination of the main theories of economic growth currently informing public policy, and the future of the American model of capitalism.

Linguistics (LIN)

LIN 610. Sociolinguistics and Dialectology. (3 h)
Study of variation in language: effects of regional background, social class, ethnic group, gender, and setting; social attitudes toward language; outcomes of linguistic conflicts in the community; evolution of research methods for investigating language differences and the diffusion of change. P-POI.

LIN 640. Special Topics in Linguistics. (3 h)
Interdisciplinary study of selected topics, such as morphology, phonology/phonetics, syntax, historical linguistics, history of linguistic theory, semiotics, and ethnolinguistics, issues in Asian linguistics, language and gender. May be repeated for credit if topic varies.

LIN 680. Quantitative Text Analysis. (3 h)
Introduction to the fundamental concepts and practical programming skills from data science applied to the task of quantitative text analysis. Course surveys methods for selecting, organizing, extracting, and analyzing information from textual data sources to generate novel insight into topics from a variety of linguistics and language-related fields.

LIN 683. Computer-Assisted Translation and Localization. (3 h)
This course provides a comprehensive overview of the language industry and the intricacies of the localization process. Students will explore the benefits of using computer-assisted translation (CAT) tools and will gain hands-on experience. The curriculum emphasizes practical applications, including analyzing and optimizing the localization process for maximum quality. Students will develop advanced translation and problem solving skills by evaluating available resources and creating their own translation assets. The course prepares students to navigate the dynamic field of localization and effectively utilize industry-standard tools and workflows.

Mathematics (MTH)

MTH 605. Introduction to Linear Algebra and Differential Equations. (3 h)
Specific topics covered include: vector algebra, solving linear systems of equations, rank, vector spaces, determinants, eigenvalues, linear transformations, first order differential equations, second order linear ordinary differential equations, and power series solutions to differential equations. May not be used toward any graduate degree offered by the department.

MTH 611. Introductory Real Analysis I. (3 h)
Limits and continuity in metric spaces, sequences and series, differentiation and Riemann-Stieltjes integration, uniform convergence, power series and Fourier series, differentiation of vector functions, implicit and inverse function theorems.

MTH 617. Complex Analysis I. (3 h)
Analytic functions, Caughy's theorem and its consequences, power series, and residue calculus.

MTH 624. Advanced Linear Algebra. (3 h)
A thorough treatment of vector spaces and linear transformations over an arbitrary field, canonical forms. inner product spaces, and linear groups.

MTH 626. Numerical Linear Algebra. (3 h)
An introduction to numerical methods for solving matrix and related problems in science and engineering using a high-level matrix-oriented language such as MATLAB. Topics include systems of linear equations, least squares methods, and eigenvalue computations. Special emphasis is given to applications.

MTH 631. Geometry. (3 h)
An introduction to axiomatic geometry including a comparison of Euclidean and non-Euclidean geometries.

MTH 634. Differential Geometry. (3 h)
Introduction to the theory of curves and surfaces in two and three dimensional space including such topics as curvature, geodesics, and minimal surfaces.

MTH 645. Elementary Number Theory. (3 h)
Course topics include properties of integers, congruences, and prime numbers, with additional topics chosen from arithmetic functions, primitive roots, quadratic residues, Pythagorean triples, and sums of squares.

MTH 646. Modern Number Theory. (3 h)
Course topics include a selection of number-theory topics of recent interest. Some examples include elliptic curves, partitions, modular forms, the Riemann zeta function, and algebraic number theory.

MTH 647. Graph Theory. (3 h)
Paths, circuits, trees, planar graphs, spanning trees, graph coloring, perfect graphs, Ramsey theory, directed graphs, enumeration of graphs and graph theoretic algorithms.

MTH 648. Combinatorial Analysis I. (3 h)
Enumeration techniques, generating functions, recurrence formulas, the principle of inclusion and exclusion, Polya theory, graph theory, combinatorial algorithms, partially ordered sets, designs, Ramsey theory, symmetric functions, and Schur functions.

MTH 649. Combinatorial Analysis II. (3 h)
Enumeration techniques, generating functions, recurrence formulas, the principle of inclusion and exclusion, Polya theory, graph theory, combinatorial algorithms, partially ordered sets, designs, Ramsey theory, symmetric functions, and Schur functions.

MTH 651. Introduction to Mathematical Modeling. (3 h)
Introduction to the mathematical modeling, analysis and simulation of continuous processes using MATLAB, Mathematica or Maple. Topics include dimensional analysis, stability analysis, bifurcation theory, one-dimensional flows, phase plane analysis, index theory, limit cycles, chaotic dynamics, hyperbolic conservation laws and traveling waves.

MTH 652. Partial Differential Equations. (3 h)
A detailed study of partial differential equations, including the heat, wave, and Laplace equations, using methods such as separation of variables, characteristics, Green's functions, and the maximum principle.

MTH 654. Discrete Dynamical Systems. (3 h)
Introduction to the theory of discrete dynamical systems as applied to disciplines such as biology and economics. Includes methods for finding explicit solutions, equilibrium and stability analysis, phase plane analysis, analysis of Markov chains and bifurcation theory.

MTH 655. Introduction to Numerical Methods. (3 h)
An introduction to numerical computations on modern computer architectures; floating point arithmetic and round-off error including programming in a scientific/engineering language such as MATLAB, Cor Fortran. Topics include algorithms and computer techniques for the solution of problems such as roots of functions, approximations, integration, systems of linear equations and least squares methods. Also listed as CSC 655.

MTH 657. Probability. (3 h)
Distributions of discrete and continuous random variables, sampling distributions. Covers much of the material on the syllabus for the first actuarial exam. This course is cross-listed as STA 610.

MTH 658. Mathematical Statistics. (3 h)
This course will cover derivation of point estimators, hypothesis testing, and confidence intervals using both maximum likelihood and Bayesian approaches. P-MTH 657 or POI.

MTH 681. Individual Study. (1-2 h)
A course of independent study directed by a faculty advisor. By prearrangement. May be repeated for credit.

MTH 682. Reading in Mathematics. (1-3 h)
Reading in mathematical topics to provide a foundational basis for more advanced study in a particular area. May not be used to satisfy any requirement in the MS degree with thesis. No more than three hours may be applied to the requirements for the MS degree without thesis. May be repeated for credit for a total of 3 hours.

MTH 683. Advanced Topics in Mathematics. (1-3 h)
Topics in mathematics that are not considered in regular courses. Content varies.

MTH 691. Research Exploration in Mathematics. (1-3 h)
Students will participate in introductory research projects while developing skills for success. May not be used towards any degree offered by the department. Pass/Fail only. POI only.

MTH 711. Real Analysis. (3 h)
An introduction to analysis on metric spaces and to calculus on Banach spaces with applications.

MTH 712. Real Analysis. (3 h)
Measure and integration theory, elementary functional analysis, selected advanced topics in analysis.

MTH 715. Seminar in Analysis. (1 h)

MTH 716. Seminar in Analysis. (1 h)

MTH 717. Optimization in Banach Spaces. (3 h)
Banach and Hilbert spaces, best approximations, linear operators and adjoints, Frechet derivatives and nonlinear optimization, fixed points and iterative methods. Applications to control theory, mathematical programming, and numerical analysis.

MTH 718. Topics in Analysis. (3 h)
Selected topics from functional analysis or analytic function theory.

MTH 721. Abstract Algebra. (3 h)
Groups, rings, fields, extensions, Euclidean domains, polynomials, vector spaces, Galois theory.

MTH 722. Abstract Algebra. (3 h)
Groups, rings, fields, extensions, Euclidean domains, polynomials, vector spaces, Galois theory.

MTH 724. Seminar on Theory of Matrices. (1 h)

MTH 725. Seminar in Algebra. (1 h)

MTH 726. Seminar in Algebra. (1 h)

MTH 728. Topics in Algebra. (3 h)
Topics vary and may include algebraic coding theory, algebraic number theory, matrix theory, representation theory, non-commutative ring theory.

MTH 731. Topology. (3 h)
Point-set topology including topological spaces, continuity, connectedness, compactness, and metric spaces. Additional topics in topology may include classification of surface, algebraic topology, and knot theory.

MTH 732. Topics in Topology and Geometry. (3 h)
Topics vary and may include knot theory, algebraic topology, differential topology, manifolds, and Riemannian geometry. May be repeated for credit. P - 731 or POI.

MTH 733. Topics in Topology and Geometry. (3 h)
Topics vary and may include knot theory, non-Euclidean geometry, combinatorial topology, differential topology, minimal surfaces and algebraic topology.

MTH 735. Seminar on Topology. (1 h)

MTH 736. Seminar on Topology. (1 h)

MTH 737. Seminar on Geometry. (1 h)

MTH 738. Seminar on Geometry. (1 h)

MTH 744. Topics in Number Theory. (3 h)
Topics vary and are chosen from the areas of analytic, algebraic, and elementary number theory. Topics may include Farey fractions, the theory of paritions, Waring's problem, prime number theorem, and Dirichlet's problem.

MTH 745. Seminar on Number Theory. (1 h)

MTH 746. Seminar on Number Theory. (1 h)

MTH 747. Topics in Discrete Mathematics. (3 h)
Topics vary and may include enumerative combinatorics, graph theory, algebraic combinatorics, combinatorial optimization, coding theory, experimental designs, Ramsey theory, Polya theory, representational theory, set theory and mathematical logic.

MTH 748. Seminar on Combinatorial Analysis. (1 h)

MTH 749. Seminar on Combinatorial Analysis. (1 h)

MTH 750. Dynamical Systems. (3 h)
Introduction to modern theory of dynamical systems. Linear and nonlinear autonomous differential equations, invariant sets, closed orbits, Poincare maps, structural stability, center manifolds, normal forms, local bifurcations of equilibria, linear and non-linear maps, hyperbolic sets, attractors, symbolic representation, fractal dimensions. P-MTH 611.

MTH 752. Topics in Applied Mathematics. (3 h)
Topics vary and may include computational methods in differential equations, optimization methods, approximation techniques, eigenvalue problems. May be repeated for credit.

MTH 753. Nonlinear Optimization. (3 h)
The problem of finding global minimums of functions is addressed in the context of problems in which many local minima exist. Numerical techniques are emphasized, including gradient descent and quasi-Newton methods. Current literature is examined and a comparison made of various techniques for both unconstrained and constrained optimization problems. Also listed as CSC 753.

MTH 754. Numerical Methods for Partial Differential Equations. (3 h)
Numerical techniques for solving partial differential equations (including elliptic, parabolic, and hyperbolic) are studied along with applications to science and engineering. Theoretical foundations are described and emphasis is placed on algorithm design and implementation using either C, FORTRAN, or MATLAB. Credit not allowed for both MTH 754 and CSC 754. P-MTH 655 or CSC 655.

MTH 757. Stochastic Processes and Applications. (3 h)
This course includes the axiomatic foundations of probability theory and an introduction to stochastic processes. Applications may include Markov chains, Markov Chain Monte Carlo with Metropolis-Hastings, Gibb sampling, Brownian motion, and related topics, with an emphasis on modern developments. This course is cross-listed as STA 710. P-MTH 657 or STA 610 and MTH 611 or POI.

MTH 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

MTH 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

Philosophy (PHI)

PHI 631. Plato. (3 h)
Detailed analysis of selected dialogues, covering Plato's most important contributions to moral and political philosophy, theory of knowledge, metaphysics, and theology.

PHI 632. Aristotle. (3 h)
Study of the major texts, with emphasis on metaphysics, ethics, and theory of knowledge. P-POI.

PHI 641. Kant. (3 h)
Study of Kant's principal contributions to metaphysics and the theory of knowledge.

PHI 642. Studies in Modern Philosophy. (3 h)
Treatment of selected figures and/or themes in seventeenth and eighteenth century European philosophy. P-POI.

PHI 652. 19th Century European Philosophy: Hegel, Kierkegaard, and Nietzsche. (3 h)
Surveys the work of important figures in this period, such as G. W. F. Hegel, Soren Kierkegaard, Karl Marx, Rosa Luxemburg, Friedrich Nietzsche, and Edith Stein, addressing issues such as the nature of history, society, nihilism, alienation, and authenticity.

PHI 653. Heidegger. (3 h)
Heidegger early and late. Early Heidegger: the contrast between conformism and authenticity achieved through 'being-towards-death'; meaning through communal tradition. Late Heidegger: critique of modernity's reduction of everything to 'resource'; the ethics of 'dwelling' as our proper way of being in the world.

PHI 654. Wittgenstein. (3 h)
The work of Ludwig Wittgenstein on several central philosophical problems studied and compared with that of Frege, James, and Russell. Topics include the picture theory of meaning, truth, skepticism, private languages, thinking, feeling, the mystical, and the ethical. P-POI.

PHI 660. Ethics. (3 h)
Systematic examination of central ethical theories in the Western philosophical tradition. Such theories include Kantian deontology, utilitarianism, Aristotelian virtue ethics, and divine command theory.

PHI 661. Topics in Ethics. (3 h)
P-POI.

PHI 662. Social and Political Philosophy. (3 h)
Systematic examination of the work of selected contemporary and traditional philosophers on topics such as the state, the family, distributive justice, property, liberty, and the common good.

PHI 670. Philosophy and Christianity. (3 h)
Examination of the philosophical foundations of Christian thought and belief. Christian concepts of God and life everlasting, trinity, incarnation, atonement, prayer, sin, evil and obligation.

PHI 671. Aesthetics and the Philosophy of Art. (3 h)
Covers such questions as: What is beauty? What is taste? What is art? Must art be beautiful? Can immoral art be good art? Readings may cover historical figures such as Plato or Kant, or may focus on contemporary writers.

PHI 672. Philosophy of Religion. (3 h)
What is religion? Are the gods dead? Is God dead? Is religious belief a symptom of an underlying human weakness or biological process, or could it be a response to the sacred? Must believers rely on something less than knowledge? Are philosophical proofs the way to knowledge of God? What sort of problem is the "problem of evil" and what is its significance? How are religious beliefs like and unlike metaphysical, moral, and modern scientific beliefs?.

PHI 673. Philosophy of Science. (3 h)
Systematic and critical examination of major views concerning the methods of scientific inquiry, and the bases, goals, and implication of the scientific conclusions which result from such inquiry. P-POI.

PHI 674. Philosophy of Mind. (3 h)
Selection from the following topics: the mind-body problem; personal identity; the unity of consciousness; minds and machines; the nature of experience; action, intention, and the will.

PHI 675. Philosophy of Language. (3 h)
Study of such philosophical issues about language as truth and meaning, reference and description, proper names, indexicals, modality, tense, the semantical paradoxes, and the differences between languages and other sorts of sign-systems. P-POI.

PHI 681. Topics in Epistemology. (3 h)
The sources, scope and structure of human knowledge. Topics include: skepticism; perception, memory and reason; the definition of knowledge; the nature of justification; theories of truth. P-POI.

PHI 682. Public Philosophy. (3 h)
This course examines the role of philosophers and the contributions of philosophy to examine and address substantive matters of public importance or concern. P-POI.

PHI 685. Seminar. (2-3 h)
Offered by members of the faculty on specialized topics of their choice. With permission, may be repeated for credit. P-POI.

Physics (PHY)

PHY 601. Physics Seminar. (0.5 h)
Discussion of contemporary research, usually with visiting scientists. S/U only.

PHY 603. Physics Internship. (0 h)
Mentored internship in Physics. Permission of research mentor and program director required.

PHY 607. Biophysics. (3 h)
Introduction to the structure, dynamic behavior, and function of DNA and proteins, and a survey of membrane biophysics. The physical principles of structure determination by X-ray, NMR, and optical methods are emphasized.

PHY 610. Extragalactic Astronomy and Cosmology. (3 h)
Topics covered include galactic structure, models for galaxies and galaxy formation, the large-scale structure of the universe, the Big Bang model of the universe, physical processes such as nucleosynthesis in the early universe, and observational cosmology.

PHY 620. Physics of Macromolecules. (3 h)
The physics of large biologically important molecules, especially proteins and nucleic acids. Topics covered include the physical basis of biomolecular structure, the energetics and statistical mechanics of biomolecular dynamics, and the electrostatics and solvation of biomolecules. Designed for students with biochemistry, chemistry, or physics backgrounds.

PHY 623. Computational Biophysics Laboratory. (1 h)
Application of techniques in molecular modeling, including energy minimization, molecular dynamics simulation, and conformational analysis. C-PHY 620 or POI.

PHY 625. Biophysical Methods Lab. (1.5 h)
Experiments using various biophysical techniques such as electron paramagnetic resonance, atomic force microscopy, stopped-flow absorption spectroscopy, X-ray diffraction, and gel electrophoresis. C-PHY 607.

PHY 635. Computational Physics. (3 h)
An introduction to finding numerical solutions to scientific problems. Topics include understanding computational errors, differentiation, integration interpolation, root finding, random numbers, linear systems, Fourier methods, and the solution of ODEs and PDEs. There is no computer programming prerequisite. Credit will not be given for both PHY 635 and CSC 655/MTH 655.

PHY 637. Analytical Mechanics. (1.5 h)
The Lagrangian and Hamiltonian formulations of mechanics with applications. Taught in the first half of the fall semester.

PHY 639. Electricity and Magnetism. (1.5 h)
Electrostatics, magnetostatics, dielectric and magnetic materials, Maxwell's equations and applications to radiation, relativistic formulation. The first half course is taught in the second half of the fall semester, following PHY 637. The other course is taught in the spring semester. These should be taken in sequence.

PHY 640. Electricity and Magnetism. (3 h)
Electrostatics, magnetostatics, dielectric and magnetic materials, Maxwell's equations and applications to radiation, relativistic formulation. PHY 640 is taught in the spring semester after PHY 639. These should be taken in sequence. P-PHY 639.

PHY 641. Thermodynamics and Statistical Mechanics. (3 h)
Introduction to classical and statistical thermodynamics and distribution functions.

PHY 643. Quantum Physics. (3 h)
Basic quantum theory and applications including the time-independent Schrodinger equation, formalism and Dirac notation, the hydrogen atom, spin, identical particles, and approximation models.

PHY 644. Quantum Physics. (3 h)
Basic quantum theory and applications including the time-independent Schrodinger equation, formalism and Dirac notation, the hydrogen atom, spin, identical particles, and approximation methods.

PHY 645. Introduction to Quantum Computing. (3 h)
Introduction to the physics of quantum information sciences and quantum computing.

PHY 652. Physical Optics and Optical Design. (4 h)
Interaction of light with materials; diffraction and coherent optics; ray trace methods of optical design. C-PHY 652L.

PHY 652L. Physical Optics Lab. (0 h)

PHY 654. Introduction to Solid State Physics. (3 h)
Survey of the structure, composition, physical properties, and technological applications of condensed matter.

PHY 655. Quantum Materials. (3 h)
This course explores materials systems that express exotic properties derived from some aspect of dimensionality or topology. Thermal, electrical, optical and magnetic properties of these quantum materials will be addressed with emphasis on applications in quantum information sciences. From superconducting SSH polymers, to topological insulators, simple models are used throughout the course to develop insight into the physics of low-dimensional structures.

PHY 656. Electronic Imaging Sciences. (1.5 h)
This course introduces the theory and application of the electron imaging systems: transmission electron microscopy (TEM) and scanning electron microscopy (SEM). It focuses on basic materials science though some biological materials will be covered. It is taught as a series of lectures followed by laboratories.

PHY 657. Scanning Probes. (1.5 h)
This course examines the theory and application of scanning tunneling microscopy and atomic force microscopy (STM/AFM). It introduces how each type of imaging works, how to model spectroscopic data, and how to use each microscope. Students will image using the STM and AFM as well as take and reduce spectroscopy data using models built in Maple or Mathematica.

PHY 658. Kinetics of Materials. (1.5 h)
This course offers a study of driving forces for atomic and ionic motion within solids leading to a range of materials properties from work hardening to phase transformations and formation. Atomic-level models for diffusion will be introduced as well as techniques and examples of the solution to the diffusion equation. It complements the traditional thermodynamics course.

PHY 661. Biophysics Seminar. (1 h)
Seminal and current publications in biophysics are studied. Each week a member of the class makes an oral presentation on a chosen publication and leads the ensuing discussion. Students may also be required to make a second oral presentation relevant to their own research. Does not fulfill course requirements for Master's or PhD degrees. May be repeated for credit. S/U only.

PHY 663. Condensed Matter Seminar. (1 h)
Seminal and current publications in condensed matter physics are studied. Each week a member of the class makes an oral presentation on a chosen publication and leads the ensuing discussion. Does not fulfill course requirements for Master's or PhD degrees. May be repeated for credit. S/U only.

PHY 685. Bioinformatics. (3 h)
Introduction to computational approaches essential to modern biological inquiry. Approaches may include large biological dataset analyses, sequence similarity and motif searches, and analysis of high-throughput genomic technologies. Emphasizes interdisciplinary interaction and communication. Also listed as CSC 685 and BIO 685.

PHY 691. Special Topics in Physics. (1-4 h)
Courses in selected topics in physics. May be repeated if course contenct differs.

PHY 692. Special Topics in Physics. (1-4 h)
Courses in selected topics in physics. May be repeated if course content differs.

PHY 711. Classical Mechanics and Mathematical Methods. (3 h)
A study of variational principles and Lagrange's equations, the rigid body equations of motion, the Hamilton equations of motion and canonical transformations, Hamilton-Jacobi theory, and applications to continuous systems and fields.

PHY 712. Electromagnetism. (3 h)
A study of electric and magnetic fields in vacuum and within media and their sources. Analytical and numerical methods for solving Maxwell's equations are also an important part of the course.

PHY 715. Nonlinear Optics and Quantum Electronics. (3 h)
Nonlinear phenomena in laser spectroscopy, the quantum nature of optical processes in matter, and topics in laser physics. Lab-three hours.

PHY 731. Elementary Particle Physics. (3 h)
Fundamentals of contemporary elementary particle physics.

PHY 741. Quantum Mechanics. (3 h)
Study of the foundations of quantum theory, Hilbert space, operators, Schrodinger's equation and its solutions, symmetries, spin, multiple particles, approximation methods, scattering, the Dirac equation, and quantization of the electromagnetic field and its interaction with atoms.

PHY 742. Quantum Mechanics. (3 h)
Study of the foundations of quantum theory, Hilbert space, operators, Schrodinger's equation and its solutions, symmetries, spin, multiple particles, approximation methods, scattering, the Dirac equation, and quantization of the electromagnetic field and its interaction with atoms.

PHY 744. Introduction to Quantum Field Theory. (3 h)
Introduction to relativistic quantum field theory, including canonical quantization, path integral techniques, perturbation theory, and renormalization.

PHY 745. Group Theory. (3 h)
Group theory and its applications to the quantum mechanics of atoms, molecules, and solids.

PHY 746. Quantum Information Theory. (3 h)

PHY 752. Solid State Physics. (3 h)
Introductory course including the structure of perfect crystalline solids, their thermal, electronic, and magnetic properties. Crystal symmetries, the free electron and band theory of metals, optical and transport properties, and semiconductors. Consequences of electronic interactions.

PHY 754. Surface Science. (3 h)
Experimental and theoretical methods for the study of surfaces and interfaces. Lab-1.5 hours.

PHY 765. Gravitational and Particle Theory Seminar. (1 h)
Topics in general relativity, particle physics, and astrophysics are studied. Each week a faculty member or member of the class makes an oral presentation on a chosen topic and leads the ensuing discussion. Does not fulfill minimum course requirements for Master's and PhD degrees. May be repeated for credit. S/U only.

PHY 770. Statistical Mechanics. (3 h)
Introduction to probability theory and to the physics of systems containing large numbers of particles from the classical as well as the quantum point of view.

PHY 771. Radiological Physics. (3 h)
The nature and fundamental concepts of ionizing radiation including: ionizing radiation, radiation quantities, attenuation and stopping power, charged particle and radiation equilibria radioactive decay, photon interactions, charged and uncharged particle interactions, x-ray production and quality, dosimetry concepts, ionization cavity theory, and calibration of ionizing radiation beams. Also listed as BMES 771 and MPHY 771.

PHY 773. Radiation Therapy Physics. (3 h)
The physics of radiation treatment including: radiation producing equipment, character of photon and electron radiation beams, radiation dose functions, computerized radiation treatment planning, brachytheraphy, special radiation treatment procedures, quality assurance, and radiation shielding for high energy facilities. Also listed as BMES 773 and MPHY 773.

PHY 774. Ionizing Medical Imaging. (2 h)
This course covers the physical principles, mathematical algorithms and devices used in diagnostic medical imaging, including the following imaging modalities: x-ray digital imaging, digital image receptors, computerized tomography and reconstruction algorithms, ultrasound imaging, magnetic resonance imaging and nuclear medicine imaging. Also listed as BMES 774 and MPHY 774.

PHY 776. Medical Health Physics. (3 h)
Physical and biological aspects for the use of ionizing radiation in medical environments, biological consequences of human radiation exposure, principles of ionizing radiation protection, operational dosimetry, radiation exposure recommendations and regulations, physical principles of radiation shielding design, personnel monitoring, medical health physics instrumentation, and waste disposal. Also listed as BMES 776 and MPHY 776.

PHY 779. Non-Ionizing Medical Imaging. (2 h)
This course covers the physical principles, mathematical algorithms and devices used in diagnostic medical imaging which uses non-ionizing radiation, including the following imaging modalities: x-ray physics, x-ray digital imaging, digital image receptors, computerized tomography and reconstruction algorithms, and nuclear medicine imaging. Also listed as MPHY 779.

PHY 780. Theory of General Relativity. (3 h)
Study of the covariant formulation of physical laws in mechanics and electromagnetism.

PHY 785. Topics in Theoretical Physics. (1-3 h)
Selected topics of current interest in theoretical physics not included in other courses. May be repeated for credit.

PHY 787. Advanced Topics in Physics. (1-3 h)
Lectures on advanced topics in physics that depend on the subspecialty of the instructor. Topics range from medical physics to special topics in biophysics, condensed matter physics, or quantum optics.

PHY 789. Survival Skills for Scientists. (1 h)
Students will learn skills that are essential to a successful career in the sciences. The following topics will be covered: Mentoring; How to Read, Write, and Review a Research Paper; Grant & Fellowship Basics; Choosing a Career Path & Creating a Winning Job Application; and Networking & Giving Effective Talks.

PHY 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

PHY 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

PHY 795. Physics for Education Research. (3 h)
This course will fulfill the requirement for a graduate course in Physics for students in the Masters in Education program seeking certification to teach Physics. This course involves research with a Physics advisor, with a poster or paper report as a final product.

PHY 891. Dissertation Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

PHY 892. Dissertation Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

Politics & International Affairs (POL)

POL 611. Political Parties, Voters, and Elections. (3 h)
Examination of party competition, party organizations, the electorate and electoral activities of parties, and the responsibilities of parties for governing.

POL 617. Politics of the Mass Media. (3 h)
Exploration of the relationship between the political system and the mass media. Two broad concerns are the regulation of the mass media and the impact of media on political processes and events.

POL 618. Congress and Policymaking. (3 h)
Examination of the composition, authority structures, external influences, and procedures of Congress with emphasis on their implications for policymaking in the United States.

POL 620. The American Presidency. (3 h)
Explores the interaction of the presidential office and the individual contemporary presidents in an evolving political context.

POL 629. Women, Gender, and Politics. (3 h)
Examines classical and contemporary studies of how gender structures politics, including the political participation of women and other gendered social groups, as well as current policy issues.

POL 632. Politics in Russia and Eastern Europe. (3 h)
Analysis of the political, economic, and social patterns of the region emphasizing the internal dynamics and divergent outcomes of the regime transitions after the fall of communism in Central and Eastern Europe and the former Soviet Union.

POL 636. Government and Politics in Latin America. (3 h)
Comparative analysis of the institutions and processes of politics in the Latin American region.

POL 646. Politics and Policies in South Asia. (3 h)
Survey of major issues relevant to politics and policy in India, Pakistan, Bangladesh, and Sri Lanka.

POL 647. Islam and Politics. (3 h)
Explores the interrelationship of Islam and politics in the contemporary world. Deals with Islam as a political ideology which shapes the structure of political institutions and behavior. Looks at Islam in practice by examining the interaction between Islam and the political systems of Iran, Pakistan, Saudi Arabia, and others.

POL 650. Afghanistan, Pakistan, Iraq and U.S. Policy since 2001. (3 h)
Broadly addresses the phenomena of U.S. involvement in two ongoing conflicts -- the Afghanistan war and the Iraq war. Focuses on the respective domestic and international politics and policies of the four main actors relevant to the conflicts: U.S., Afghanistan, Pakistan, and Iraq.

POL 653. International Political Economy. (3 h)
Analyzes major issues in the global political economy including theoretical approaches to understanding the tension between politics and economics, monetary and trade policy, North-South relations, environmentalism, human rights, and democratization.

POL 654. U.S. Foreign Policy. (3 h)
Analyzes the historical and theoretical prespectives shaping U.S. engagement with the world past and present. Applies the understanding to current problems in U.S. foreign Policy.

POL 659. Palestine and Arab-Israeli Conflict. (3 h)
Explores the nature and scope of the conflict with particular emphasis on the time period post-1967 and the respective policies of the three most significant actors in the conflict: the U.S., Israel and Palestine.

POL 663. U.S. Foreign Policy in the Middle East. (3 h)
Critical analysis of U.S. foreign policy with respect to the Middle East since the second World War. Utilizes a case study method of instruction.

POL 672. Democratic Theory. (3 h)
Examines the historical and theoretical underpinnings of democracy and some of the critiques of those foundations. Focuses on understanding some of the major and competing traditions of democracy theory and how key democratic concepts are reconceptualized within these various traditions.

POL 673. Marx, Marxism, and Post-Marxism. (3 h)
Examines Marx's early humanistic writings, his later philosophy, the vicissitudes of 20th century Marxism and attempts to reorient Marx's theory in light of developments in contemporary political thought and practice.

POL 677. Feminist Political Thought. (3 h)
Examines major themes, concepts and theories in feminist political thought. Themes explored include schools of feminist thinking, feminism's diverse expressions over time, theories of the interlocking systems of oppressions, and the connection between theory and practice.

POL 678. Politics and Identity. (3 h)
Investigates the ways in which concepts of identity have informed political norms, structure, and practices; the myriad forms identity takes (particularly gender, sexual orientation, class, race, religion, and ethnicity) drawing on examples from across the globe, and theoretical approaches proposed for engaging differences.

POL 687. Individual Study. (2-3 h)
Intensive research leading to the completion of an analytical paper conducted under the direction of a faculty member. Students initiate the project and secure the permission of an appropriate instructor. May be repeated for a maximum of 6 hours, only three of which may count toward the major. P-POI.

POL 688. Directed Reading. (2-3 h)
Concentrated reading in an area of study not otherwise available. Students are responsible for initiating the project and securing the permission of an appropriate instructor. P-POI.

POL 689. Internship in Politics. (2-3 h)
Field work in a public or private setting with related readings and an analytical paper under the direction of a faculty member. Students are responsible for initiating the project and securing the permission of an appropriate instructor. Normally one course in an appropriate subfield is taken prior to the internship. P-POI.

Psychology (PSY)

PSY 620. Physiological Psychology. (3 h)
Neurophysiological and neuroanatomical explanations of behavior.

PSY 622. Psychopharmacology. (3 h)
Survey of the influences of a wide range of psychoactive drugs, both legal and illegal, on human physiology, cognition, and behavior.

PSY 623. Animal Behavior. (3 h)

PSY 626. Learning Theory and Research. (3 h)
Theory and current research in learning, with emphasis on applications of learning principles for behavior modification and comparisons across species.

PSY 629. Perception. (3 h)
Survey of theory and research findings on various sensory systems (vision, hearing, touch, taste).

PSY 631. Research in Cognitive Psychology. (3 h)
In-depth examination of research in a selected area of cognitive psychology such as memory, attention, or executive function. Research projects required.

PSY 633. Motivation of Behavior. (3 h)
Survey of basic motivational concepts and related evidence.

PSY 638. Emotion. (3 h)
Survey of theory, methods, and research in the area of emotion. Developmental, cultural, social-psychological, physiological, personality, and clinical perspectives on emotions are given.

PSY 641. Research in Developmental Psychology. (3 h)
Methodological issues and selected research in child development. Research projects required.

PSY 646. Stereotyping and Prejudice. (3 h)
Research and theory on social and cognitive processes that underlie prejudice and discrimination.

PSY 648. Clinical Neuropsychology. (3 h)
Surveys connections between abnormal neurological processes and clinical abnormalities. This implies already having an understanding of normal brain function and anatomy.

PSY 651. Personality Research. (3 h)
The application of a variety of research procedures to the study of human personality. Research projects required.

PSY 655. Research in Social Psychology. (3 h)
Methodological issues and selected research in the study of the human as a social animal. Field research projects required.

PSY 657. Cross-Cultural Psychology. (3 h)
Examination of differences in psychological processes (e.g., attitudes, perception, mental health, organizational behavior) associated with cultural variation.

PSY 659. Psychology of Gender. (3 h)
Exploration of the psychological similarities and differences between human males and females, including consideration of social, cognitive, motivational, biological, and developmental determinants of behavior.

PSY 662. Psychological Testing. (3 h)
Theory and application of psychological assessment procedures in the areas of intelligence, aptitude, vocational interest, and personality.

PSY 663. Survey of Clinical Psychology. (3 h)
Overview in the field of clinical and other selected areas of applied psychology.

PSY 664. Prejudice, Discrimination, Racism, and Heterosexism. (3 h)
Comparison of cross-cultural similarities and differences in the initiation, maintenance, and treatment of prejudice, discrimination, and racism, with an emphasis on past and current trends in the U.S.

PSY 667. Parent-Child Relationships. (3 h)
Surveys characteristics of parent-child relationships and issues of parenting as related to a variety of factors, including developmental changes of parent and child, family structure, and sociocultural context.

PSY 674. Judgment and Decision Making. (3 h)
Theoretical and empirical examination of how people make decisions and judgments about their lives and the world, and how these processes can be improved.

PSY 692. Contemporary Problems in Psychology. (1.5 h)
Seminar treatment of current theory and research in specific areas within psychology. The course is one-half semester.

PSY 701. Current Topics in Psychology. (1.5 h)
Seminar courses in selected topics in psychology.

PSY 702. Current Topics in Psychology. (1.5 h)
Seminar courses in selected topics in psychology.

PSY 703. Current Topics in Psychology. (3 h)
Seminar course in selected topics in psychology.

PSY 715. Research Design and Analysis in Psychology I. (3 h)
Intensive study of analysis of research data in psychology. Covers methods such as analysis of variance, contrast analysis, and other techniques, as well as in-depth discussions of data analytic issues like the logic of hypothesis testing, benefits and concerns regarding preregistration, etc. Requires previous coursework in basic statistics. Permission of instructor required.

PSY 716. Research Design and Analysis in Psychology II. (3 h)
Intensive study of analysis of research data in psychology. Covers methods such as linear regression, multilevel modeling, logistic regression, multivariate analysis of variance, factor analysis, path analysis, and structural equation modeling. Requires previous coursework in basic statistics. P-PSY 715.

PSY 718. Data Science for Psychologists. (3 h)
Intensive study of data science methods for psychological research. Covers data wrangling, visualization, modeling, and reproducible analysis using contemporary statistical software. Requires previous or concurrent coursework in basic statistics. Permission of instructor required.

PSY 720. Biological Psychology. (3 h)
Study of the biological basis of behavior and mental processes, with emphasis on current developments in neuroscience, and human applications of this information. Laboratory work in neuroanatomy and psychophysiology.

PSY 728. Human Cognition. (3 h)
Current theory and research on functional characteristics and neural correlates of cognitive processes in such areas as memory, attention, and language.

PSY 738. Learning and Motivation. (3 h)
Basic learning principles and concepts and related motivational concepts.

PSY 742. Seminar in Developmental Psychology. (3 h)
Critical examination of the major findings, principles, and theories of development, with attention to both human and lower-animal research.

PSY 752. Seminar in Social Psychology. (3 h)
Content and methodology of social psychology examined through a critical and comparative analysis of contemporary theory and literature.

PSY 757. Seminar in Personality Psychology. (3 h)
Evaluation of contemporary solutions to important problems in personality psychology, with special attention to historical context and anticipated future directions.

PSY 770. Psychology Practicum. (1-3 h)
Work experience in an applied psychology setting (such as clinical or industrial) under a qualified supervisor.

PSY 771. Psychology Practicum. (1-3 h)
Work experience in an applied psychology setting (such as clinical or industrial) under a qualified supervisor.

PSY 772. Psychology Practicum. (1-3 h)
Work experience in an applied psychology setting (such as clinical or industrial) under a qualified supervisor.

PSY 773. Psychology Practicum. (1-3 h)
Work experience in an applied psychology setting (such as clinical or industrial) under a qualified supervisor.

PSY 782. Readings and Research in Psychology. (1-3 h)
This listing allows the graduate student, working under the supervision of a faculty member, to pursue and receive credit for 1) a special reading project in an area not covered by regular courses or 2) a special research project not related to the master's thesis. Supervising faculty member and hours credit for which enrolled determined by graduate committee prior to registration.

PSY 785. Directed Thesis Research I. (3 h)
First-year students undertake a substantial research project under the direction of their advisor.

PSY 786. Directed Thesis Research. (3 h)

PSY 791. Thesis Research I. (1-9 h)

PSY 792. Thesis Research II. (1-9 h)

Religion (REL)

REL 600. Approaches to the Study of Religion. (3 h)
A phenomenological study of different ways of defining religion, including views of representative philosophers, psychologists, sociologists, anthropologists, theologians, and historians of religion.

REL 604. Myth, Ritual, and Symbolism. (3 h)
Explores how people envision and manipulate the supernatural in cross-cultural perspective. Emphasizes functional apsects of religious beliefs and practices.

REL 605. Ethnography of Religion. (3 h)
Study of theory and method in ethnography of religion where students closely read ethnographies from a variety of cultures and discuss the practical, methodological, and ethical issues related to ethnography. Course culminates with students researching and writing their own ethnographies.

REL 606. Ritual Studies. (3 h)
An introduction to the various methods and theories employed in the field of ritual studies, while examining comparative rituals and ritualized practices from around the world.

REL 607. Magic, Science, and Religion. (3 h)
Explores concepts of magic, science, and religion that emerged in Western thought and culture from late antiquity through the European Enlightenment and analyzes connections between religious traditions and Western, Modern Science.

REL 608. Sacred Scripture in the Tradition of Abraham. (3 h)
Comparative study of sacred texts in Judaism, Christianity, and Islam with particular attention to the issues of authority, function, and interpretations.

REL 610. The Prophetic Literature. (3 h)
Examination of the development and theological contents of the literary products of Israel's prophetic movement.

REL 612. The Critical Study of the Pentateuch. (3 h)
Study of the five traditional books of Moses (the Torah) and various lines of analysis that modern Biblical critics have used to interpret their composition and role in the development of Israelite theological thought.

REL 613. Near Eastern Archeology. (3 h)
Survey of archaeological work in the Near East with attention to the ways in which interest in the Bible has shaped research questions, interpretation of materials, and museum exhibits.

REL 615. Field Research in Biblical Archeology. (3 h)
Study of the religion and culture of the ancient Near East through the excavation and interpretation of ancient sites.

REL 616. Field Research in Biblical Archeology. (3 h)
Study of the religion and culture of the ancient Near East through the excavation and interpretation of ancient sites.

REL 617. The Wisdom Literature. (3 h)
Examination of the development, literary characteristics, and theological contents of the works of ancient Israel's sages.

REL 618. Feminist and Contemporary Interpretations of the Bible. (3 h)
Study of feminist and contemporary approaches to the Bible in light of the history of interpretation and a range of contemporary concerns and interpretive contexts.

REL 620. The Search for Jesus. (3 h)
Introduction to the issues, assumptions, evidence, and debate that shapes the continuing quest for the historical Jesus.

REL 623. Jesus Traditions. (3 h)
Examines ancient Christian and other religious representations of Jesus in historical, social, cultural and theological context.

REL 624. Early Christian Literature. (3 h)
Examination of various literature and perspectives of the first three centuries of the Christian movement.

REL 628. Jewish-Christian Relations and the New Testament. (3 h)
Study of Jewish-Christian relations and selected writings of the New Testament in the historical, social, religious and political contexts of ancient Judaism and emerging Christianity. Focus varies with instructor.

REL 629. Chinese Medicine. (3 h)
An interdisciplinary exploration and analysis of Chinese medicine, its fundamental theories, and its range of health-oriented and religious applications.

REL 630. Pope, Jefferson and Imam: A Study In Comparative Ethics. (3 h)
Comparative study of the moral values and socio-ethical positions in the major religious traditions of the world, with focus on their various methods of reasoning and sources of authority.

REL 631. Religion and Law. (3 h)
A study of religion and law as distinct yet interdependent spheres that influence cultural negotiations about authority, power, identity, and the regulation of society. Geographic and tradition-specific focus may vary with instructor.

REL 632. Religion and Public Engagement. (3 h)
This seminar introduces students to dynamics at work at the interface between relgious communites and the public sphere. It will explore, through a wide range of readings, guest lectures, and films, the potential for social change---constructive and destructive---within and between communities in locally, regionally, nationally and globally.

REL 635. Christian Ethics and the Problem of War. (3 h)
Examination of the causes and characteristics of war, various Christian responses to it, and approaches to peacemaking, with attention to selected contemporary issues.

REL 636. Religious Traditions and Human Rights. (3 h)
Study of the relationships and tensions between religious traditions and human rights, with illustrations from historical and contemporary issues and movements.

REL 638. Religion Ethics and Politics. (3 h)
Examination of ethical issues in religion and politics using materials from a variety of sources and historical periods.

REL 639. Religion, Power and Society in Modern Africa. (3 h)
Interdisciplinary study of the growth transformations of Africa's major religious traditions (Christianity, Islam, and the indigenous religions) and of their relations with secular social changes.

REL 640. Holy Chow: Food and Religion. (3 h)
Explores the roles food and eating play in religious behavior and the ways in which religious practices and experiences impact our eating habits and food choices.

REL 641. Religion and Ecology. (3 h)
Cross-cultural examination of the relationships among human beings, their diverse cultures, habitats, and religions, including social and political understandings of the environment.

REL 642. Religious Intolerance in U.S.. (3 h)
Study of the various manifestations of religious intolerance in the U.S. from the colonial period until the present.

REL 643. Religion, Culture, and the Body. (3 h)
A cross-cultural, multi-disciplinary exploration of the body as a malleable locus of contested ideals that informs personal, social, and religious identity formation.

REL 644. Religion, Poverty, and Social Entrepreneurship. (3 h)
Interdisciplinary study of major themes in religion, poverty, reduction, and social entrepreneurship. Focus and community empahsis may vary with instructor.

REL 645. The African American Religious Experience. (3 h)
Exploration of the religious dimensions of African-American life from its African antecedents to contemporary figures and movements.

REL 647. Religion, Gender, and Sexuality. (3 h)
This course explores how 'religion' regulates gender and sexuality by examining religious texts, media, and political rhetoric through feminist, queer, and postcolonial theory. Through an analysis of historical and contemporary debates and issues concerning gender and sexuality, this course considers how political, social, and religious institutions understand and deploy religious belief and discourse to legislate, repress, and pathologize certain criminal, deviant, immoral, or sinful.

REL 648. Race, Memory, and Identity. (3 h)
Explores the collective memory and identity of American-Indian and African-American communitites and their response to historical trauma in their cultural imagination, spirituality, and political and social activism.

REL 649. Asian Meditation Practices. (3 h)
Introduces and examines theorectical and practical aspects of various forms of Eastern meditation (concentration, mindfulness, Zen, visualization, and moving energy work) from both practitioner and modern scientific perspectives.

REL 651. Sociology of Religion. (3 h)
Introduces the sociological analysis of religion, including religious beliefs and experiences, the cultural context of religion, varieties of religious organization, religious change and social change.

REL 655. Jewish Identities: Religion, Race, and Rights. (3 h)
Examines how evolving definitions of race, religion, and Jewishness have correlated and conflicted in varied and sometimes suprising ways and how these shifts have been tied to legal rights and social privileges.

REL 656. Faces of Modern Judaism. (3 h)
Examines contemporary expressions of Judaism and its historical roots.

REL 657. Jews in the United States. (3 h)
Focusing on the 19th-21st centuries, this course examines Jewish American histories, experiences, and identities, as well as their impact on American society as a whole.

REL 659. Hinduism in America. (3 h)
Study of the meanings, values, and practices associated with the religions of Hinduism in dialogue with the dominant culture of America.

REL 660. Hindus, Muslims, and Sikhs in North America. (3 h)
This course examines the racialization of Hinduism, Islam, Sikhism in North America. Through an analysis of historical documents, immigration laws, mainstream and social media, popular culture, and academic texts, this class explores how these religions are racialized in Canada and the US. Using a postcolonial and intersectional approach, we will examine how race, religion, gender, sexuality, and class interact to stigmatize or empower certain individuals and/or groups.

REL 661. Topics in Buddhism. (3 h)
Variable topics in buddhist history, thought, and/or practice. May be repeated for credit if topic varies.

REL 662. Topics in Islam. (3 h)
Examination of the origins and development of Islam, the world's second largest religious tradition. Attention is given to the formation of Islamic faith and practice as well as contemporary manifestations of Islam in Asia, Africa, and North America. May be repeated for credit if topic varies.

REL 663. Religions of Japan. (3 h)
Study of the central religious traditions of Japan from pre-history to the present, including Shinto, Buddhism, Zen Buddhism, Christianity, and Confucianism.

REL 665. History of Religion in America. (3 h)
Study of American religions from colonial times until the present.

REL 667. Christian Mysticism. (3 h)
Study of Christian mysticism and contemplation (spirit possession, visions, dreams, and meditation) and their relation to contemporary issues.

REL 668. The Protestant and Catholic Reformations. (3 h)
Study of the origin and development of Reformation theology and ecclesiology.

REL 669. Radical Christian Movements. (3 h)
Study of selected radical movements in the Christian tradition and their relation to contemporary issues.

REL 672. History of Christian Thought. (1.5-3 h)
Study of recurring patterns in Christian thought across time and cultures and some of the implications of those patterns in representative ancient and modern figures.

REL 672B. History of Christian Thought: Medieval and Reformation Thought. (1.5 h)
Study of the history of Christian thought, beginning with its Hebraic and Greek backgrounds and tracing its rise and development to modern times. The course may be divided into halves for 1.5 credits each: a) Patristic Thought and b) Medieval and Reformation Thought.

REL 673. Special Topics in African-American Religious Traditions. (3 h)
Variable topics in African-American religious traditions. May be repeated for credit if topic varies.

REL 674. Black Messiahs and Uncle Toms. (3 h)
Examines the cultural and religious history of black leadership in the United States.

REL 675. Race, Myth, and the American Imagination. (3 h)
A study of myth and mythology in relation to the racial imaginary in America.

REL 676. Race, Religion, and Film. (3 h)
Examines past and contemporary filmmakers who couple religious themes with racial concerns.

REL 678. Latin American Liberation Theology. (3 h)
Historical, contextual, and theoretical survey of diverse forms of Latin American theologies of liberation.

REL 679. Muslim Youth. (3 h)
Explores the lived experiences of young Muslims around the world through the intersecting lenses of religion, power and protest.

REL 681. Zen Buddhism. (3 h)
An examination of the origins and development of Zen Buddhism from China (Ch'an) to Japan and contemporary America. Particular attention is given to Zen doctrine and practice in the context of the broader Buddhist tradition.

REL 682. Religion and Culture in China. (3 h)
A thematic study of Chinese religious traditions and culture focusing on history, ritual, scripture, and popular practice. Topics include cosmology, ancestor veneration, shamanism, divination, and the role of women.

REL 683. The Qur'an and the Prophet. (3 h)
Examines the history, content, and main approaches to the scared book of Islam. Explores the influence and interaction betwwn the holy word and its transmitter the Prophet Muhammad.

REL 684. Islam and Law: Varieties in Interpretation and Expression. (3 h)
Explores main tenets of the Islamic law (Shari'ah) and how this law has been applied in past and present Islamic societies. Looks at legal issues through the lens of gender, ethics, non-muslim minorities, rights, and duties.

REL 685. Topics in South Asian Religions. (3 h)
Variable topics in the religions of South Asia. May be repeated for credit if topic varies.

REL 686. Indian Epics. (3 h)
Examines one or both Indian epics, the Mahabharata and Ramayana, while paying attention to either epic's religious, social, and political contexts, performance, and development in Indian history.

REL 687. Priests, Warriors and Ascetics in Ancient India. (3 h)
Introduces students to the history, culture and religious traditions of ancient India by examining the overlapping practices, beliefs, ideologies, and gender representations of priests, warriors, kings, and ascetics.

REL 688. South Asian Women: Religion, Culture and Politics. (3 h)
This course examines the intersection of religion, race and gender of South Asian women from a feminist and postcolonial perspective.

REL 689. Islam in the West: Changes and Challenges. (3 h)
Explores issues of identity, ethnicity and religion within various Muslim communities living in western countries. A central goal is to understand how these communities negotiate the new environment and the challenges they face.

REL 690. Special Topics in Religion. (1.5-3 h)
Religion topics of special interest. May be repeated for credit.

REL 691. Topics in East Asian Religions. (3 h)
Variable topics in the religions of China, Korea, and Japan. May be repeated if topic varies.

REL 692. Topics in First Peoples' Traditions. (3 h)
Variable topics in the religions of American Indian and Canadian First Nations. May be repeated for credit if topic varies.

REL 693. Topics in Religions of Africa. (3 h)
Variable topics in the religions of Africa or African diaspora. May be repeated for credit if topic varies.

REL 695. Exploring Interfaith Practice and Leadership. (3 h)
This online course on interfaith leadership invites students to consider how they might engage most effectively with people from a variety of religious backgrounds.

REL 696. Interreligious Encounters and Engagements. (3 h)
Surveys the history of dialogue activities among various religious communities and introduces the methods and theories of interreligious dialogues. Part of this class is interaction with local interfaith projects.

REL 700. Theory and Method in the Study of Religion. (3 h)
Explores the history of and methodological resources for the study of religion. Focus may vary according to the instructor, but the emphasis is on the ways religion has been defined, studied and interpreted over the last several centuries.

REL 701. Directed Reading. (1-3 h)
May be repeated for credit if topic varies.

REL 702. Directed Reading. (1-3 h)
May be repeated for credit if topic varies.

REL 703. Postmodern Perspective on Power, Symbolism and Performance. (3 h)
A critical examination of postmodern theories on the relationship between religion and culture.

REL 704. Conceptions of the Ultimate. (3 h)
A comparative study of religious conceptions of the ultimate (divine, sacred) within Eastern and Western traditions through a range of methodological lenses including phenomenological, philosophical, theological, and sociological.

REL 705. Research in Religion. (3 h)
Tools and methodologies applicable to research in religion. Fulfills the three hours in research methods that the religion department requires of first-year MA students.

REL 708. Religion, Language, and Symbol. (3 h)
An examination of the distinct use of language in religious discourse, with attention to theoretical understandings of human language, the variety of philosophical efforts to define the validity of religious language, and the role of metaphor and analogy in religious communication.

REL 709. Field Program in Religion and Public Engagement. (1-3 h)
Integrated study of major themes in religion and public engagement carried out in partnership with one or more communities off campus. Focus varies with instructor. On request.

REL 716. Old Testament Theology. (3 h)
Major motifs of revelation in the Old Testament; analysis of recent attempts to write Old Testament theology.

REL 718. Old Testament Exegesis. (3 h)
Detailed analysis and exegesis of selected portions of the Hebrew Bible. P-POI.

REL 719. Old Testament Exegesis. (3 h)
Detailed analysis and exegesis of selected portions of the Hebrew Bible. P-POI.

REL 720. The History of Biblical Interpretation. (3 h)
A detailed study of the history of biblical interpretation and hermeneutics.

REL 721. New Testament Theology. (3 h)
Delineation of an approach to New Testament theology as a whole, a consideration of the hermeneutical problem, and an examination of two or three themes in New Testament theology.

REL 723. New Testament Exegesis. (3 h)
Examination of selected portions of the Greek New Testament, with attention to the tools necessary for exegesis. P-POI.

REL 724. New Testament Exegesis. (3 h)
Examination of selected portions of the Greek New Testament, with attention to the tools necessary for exegesis. P-POI.

REL 726. Seminar in Early Christianity Studies. (3 h)
Intensive study of selected topics and texts in early Christianity studies.

REL 737. Figures and Traditions in Religious Ethics. (3 h)
Seminar course that examines the basic ethical works and theories of central figures in Western and non-Western traditions. Students engage in close readings of important texts in religious thought and morality and produce essays reflecting on the themes addressed by the authors.

REL 738. Seminar in Christian Social Ethics. (3 h)
Critical study of classic texts and figures in the history of Christian ethics and social thought.

REL 740. Seminar in the Sociology of Religion. (3 h)
Examination of selected classical and contemporary texts illustrative of the theories, methods, and purposes of the sociological study of religion.

REL 751. Theory and Practice of Pastoral Counseling. (3 h)
Study of counseling methodologies, psychotherapeutic techniques, personal development, and human behavior in terms of the implications for pastoral counseling.

REL 755. Clinical Pastoral Education. (3 h)
Clinical experience in pastoral care, including work in crisis situations, seminars, interdisciplinary clinical group sessions, formal pastoral counseling, urban ministry assignments, and participation in group therapy. (Both semesters must be completed.)

REL 756. Clinical Pastoral Education. (3 h)
Clinical experience in pastoral care, including work in crisis situations, seminars, interdisciplinary clinical group sessions, formal pastoral counseling, urban ministry assignements, and participation in group therapy. (Both semesters must be completed.)

REL 761. Seminar in Eastern Religion. (3 h)
Directed study in the selected areas of the religious traditions of the East.

REL 762. Literature of Ancient Judaism. (3 h)
Examination of the rabbinic writings (Mihnah, Tosefta, Talmud, Midrashim, Targumim, and the Liturgy), the Dead Sea Scrolls, The Old Testament Apocrypha and Pseudepigrapha, and the literature of Hellenistic Judaism (e.g., Philo and Josephus).

REL 763. Hellenistic Religions. (3 h)
Considerations of available source materials, questions of method, and bibliography related to such Hellenistic religions as the Myteries, Hellenistic Judaism, and Gnosticism.

REL 766. Seminar in Christian History. (3 h)
Directed study of selected areas in the history of Christianity, including Baptist history.

REL 768. The Protestant and Catholic Reformations. (3 h)
Study of the origin and development of Reformation theology and ecclesiology.

REL 771. Religions in America. (3 h)
A study of religious traditions, events, and individuals shaping religious life in America. Attention is given to native religious, colonization, denominations, awakenings, religious liberty, the western movement, and the rise of the "American Self." The development of pluralism and the impact of immigration, civil rights, and "new religions" are also studied.

REL 775. Seminar in the History of Christian Thought. (3 h)
Intensive study of a selected period or movement in Chritian theological history, with special reference to seminal persons and writings.

REL 780. Seminar in Theology and Literature. (3 h)
Intensive study of a single theologian in relation to a literary figure with a similar religious outlook, the aim being to investigate how literature and theology mutually invigorate and call each other into question. Representative pairings: Niebuhr/Auden, Barth/O'Connor, Tillich/Updike, Newman/Eliot, Kierke-gaard/Percy. May be repeated for credit if the writers studied are different.

REL 781. Special Topics in Religion. (3 h)
An intensive, in-depth study of a selected issue in the study of religion. Focus varies with instructor. May be repeated if topic varies.

REL 791. Thesis Research I. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

REL 792. Thesis Research II. (1-9 h)
May be repeated for credit. Satisfactory/Unsatisfactory.

Spanish (SPA)

SPA 622. Spanish Pronunciation and Dialect Variation. (3 h)
Description of, and practice with, the sounds, rhythm, and intonation of Spanish and the differences from English, with special attention to social and regional diversity. Strongly recommended for improving pronunciation. This course meets a N.C. requirement for teacher certification.

SPA 623. Advanced Grammar and Composition. (3 h)
Advanced-level review of Spanish morphology and syntax applied to the refinement of writing techniques.

SPA 630. The Debate about Woman in Late Medieval Spain. (3 h)
Explores romantic love in the Iberian Peninsula in the 14th and 15th centuries focusing on the debate about woman as an index of social changes happening at the moment.

SPA 631. Medieval Spain: A Cultural and Literary Perspective. (3 h)
Examination of the literary, social, and cultural themes, such as: Quests and Discoveries, Pilgrimage and the Act of Reading, Images of Islam, the Judaic Tradition in Spanish Literature, and Spiritual Life and Ideal.

SPA 632. Golden Age of Spain. (3 h)
Close analysis of literary texts, such as Lazarillo de Tormes, and study of the history of art, politics, and economics of the sixteenth and seventeenth centuries, with emphasis on themes such as the writer and society, humanism, the picaresque, Catholic mysticism, and power and politics.

SPA 633. Don Quijote: The Birth of the Novel. (3 h)
Study of Don Quijote, the first modern novel, and several exemplary novels, and contemporary theoretical approaches to them. Considers related art, music, and film. Includes discussion of themes such as the development of prose fiction, the novel as a self-conscious genre, women and society, religion and humanism, nationalism, and imperialism.

SPA 634. Voices of Modern Spain. (3 h)
Study of the multifaceted cultural identity of contemporary Spain through different literary genres, art, and film.

SPA 635. Love, Death, and Poetry. (3 h)
Study of the representation of universal themes in Spanish poetry from different historical periods.

SPA 638. Fashioning Class, Gender, and National Identity in 18th/19th-Century Spain. (3 h)
Explores representations of social class, gender, and national identity in the literature and visual culture of Spain (fashion, illustrated press, etc.) of 18th/19th-Century Spain. Topics vary, but overarching themes may range from royal identity and Enlightenment to industrialization and middle-class culture.

SPA 641. European-American Encounters, 1492 to the Present. (3 h)
Study of the 500-year tradition of representations of encounter between Spain and the Americas, with special attention to the ways the topic is used to define and redefine individual and collective identities. Primary texts include narratives, plays, engravings, murals, films, and advertisements.

SPA 642. From Colonial to Postcolonial Voices. (3 h)
Study of a variety of texts from the 18th and 19th centuries dealing with political emancipation, nation-building, and continental identity.

SPA 647. Contemporary Theatre in Spain and Spanish America. (3 h)
Study of contemporary Peninsular and Spanish-American theatre within its political, social, cultural, and aesthetic context.

SPA 648. Contemporary Women Novelists and their Female Characters. (3 h)
Study of representative novels by women writers from Spain and Latin America, with emphasis on the representation of the female protagonist within her cultural context.

SPA 655. Romantic Nationalism, Avant-garde Nihilism, and the Deconstruction of Utopia. (3 h)
Study of Latin-American poetry, including symbolist, surrealist, and conversational poetry, "happenings," and artistic manifestoes. Politics, nation-building, liberation theology, and love are common themes.

SPA 656. Transgressing Borders: Identity in the Literature of Latin American and U.S. Latino Cultures. (3 h)
A socio-historical study of theories on culture, sexual politics, and race in relation to literary texts, lyrics of popular music, and art of Latin America and the diaspora.

SPA 657. Spanish-American Short Story. (3 h)
Intensive study of the 20th-century Spanish-American short story with emphasis on major trends and representative authors, such as Quiroga, Rulfo, Borges, Cortázar, Donoso, García, Márquez.

SPA 658. Spanish-American Novel. (3 h)
Study of the novel in Spanish America from its beginning through the contemporary period.

SPA 659. Spanish-American Theatre: From Page to Stage. (3 h)
Study of the transition of a dramatic work from text to performance and the role of Spanish-American theatre as a vehicle for cultural values and sociopolitical issues. Includes rehearsals for the public staging of selected one-act plays. Proficiency in Spanish and willingness to act on stage are required.

SPA 660. Colonial Spanish America. (3 h)
Explores the early Spanish-American colonial period alongside contemporary intellectuals' attempt to return to and recover the historical past. Readings include 15th-and 16th-century codices, post-conquest indigenous writings, Iberian chronicles and letters, as well as 20th-century documents.

SPA 661. Fiction Literatures of the Mexican Revolution. (3 h)
Explores 20th-century Mexican cultural production as it relates to the Mexican Revolution (1910-1920). Readings include novels, short stories, popular poetry, and historiographic texts. Attention to Mexican muralism and cinema, and special emphasis on relationships between literature, history, and contemporary politics.

SPA 670. Film Adaptations of Literary Works. (3 h)
The development of Spanish from an early Romance dialect to a world language. Study of ongoing changes in the language's sounds, grammar, and vocabulary system, with a focus on the effects of cultural history and relationships with other languages.

SPA 671. Contrastive Spanish/English Grammar and Stylistics. (3 h)
Advanced study of structure and style in a variety of Spanish texts, with an in depth approach to idiomatic expressions and some back/cross translation exercises.

SPA 679. Special Topics in Hispanic Linguistics. (3 h)
Investigation of key areas in Spanish languages research, such as dialectology, history, language acquisition, and usage.

SPA 681. Advanced Translation Skills for the Modern Translator. (3 h)
This course introduces key translation techniques and strategies, focusing on Spanish-English written translation across various text types. Students will develop essential skills for professional practice, with an emphasis on domain-specific text analysis and translation problem-solving. Integrating traditional translation methods with the most recent technological applications, this course prepares students to engage confidently with tools such as machine translation or AI agents, when appropriate.

SPA 682. Spanish-English Interpreting. (3 h)
This course develops strategies in consecutive, escort, and simultaneous interpreting for a variety of settings. It includes an overview of remote interpreting platforms. Current employment opportunities in the field of interpreting are also briefly presented. In-class work focuses on learning or improving and practicing interpreting techniques. Individual, at home preparation – besides the assigned readings and interpreting exercises– includes a strong terminology enhancement. Some voice training is also covered.

SPA 683. Medical and Scientific Translation. (3 h)
In this elective course, students will develop and refine a practical translation skill set within the scientific and medical domains. In addition, students will gain familiarity with textual conventions that govern source and target texts within these domains and deepen their understanding of both Spanish and English as language for special purposes. Apart from translation proper, students will also be able to analyze texts for register, style, tone and content to determine the most appropriate process to achieve the highest quality translation. Finally, students' research skills will improve through the examination of available resources and the creation of domain-specific resources.

SPA 684. Internships for Spanish Translation Localization and Spanish Interpreting. (2-4 h)
Under faculty supervision, a student undertakes a translation/interpretion project at a translation bureau or translation department of a company/public organization. A community service-oriented internship is preferred for interpreting.

SPA 687. Introduction to Spanish for Business. (3 h)
Introduction to Spanish vocabulary and discourse in business. Emphasizes oral and writtten practices, reading, and Hispanic business culture as well as a comprehensive analysis of different business topics and areaas. Two mid-term essays and final essays are required.

Statistics (STA)

STA 601. Fundamentals of Statistics. (3 h)
Fundamental concepts and methods for the design, analysis, and interpretation of statistical data. Focuses on the development and application of parametric and nonparametric statistical methods for common data types as well as using computational approaches to conduct, organize, communicate, and present findings.

STA 610. Probability. (3 h)
Distributions of discrete and continuous random variables, sampling distributions. Covers much of the material on the syllabus for the first actuarial exam. This course is cross-listed as MTH 657.

STA 611. Statistical Inference. (3 h)
Derivation of point estimators, hypothesis testing, and confidence intervals, using both frequentist and Bayesian approaches. P-STA 610 or MTH 657 or POI.

STA 612. Linear Models. (3 h)
Theory of estimation and testing in linear models. Topics include least squares and the normal equations, the Gauss-Markov Theorem, testing general linear hypothesis, model selection, and applications. P-STA 610 or MTH 657, or POI.

STA 652. Networks: Models and Analysis. (3 h)
A course in fundamental network theory concepts, including measures of network structure, community detection, clustering, and network modeling and inference. Topics also draw from recent advances in the analysis of networks and network data, as well as applications in economics, sociology, biology, computer science, and other areas.

STA 662. Multivariate Statistics. (3 h)
Multivariate and generalized linear methods for classification, visualization, discrimination, and analysis.

STA 663. Introduction to Statistical Learning. (3 h)
An introduction to supervised learning. Topics may include lasso and ridge regression, splines, generalized additive models, random forests, and support vector machines. Requires prior experience with R programming.

STA 664. Computational Statistics. (3 h)
Computationally intensive statistical methods. Topics may include simulation, optimization, numerical integration, Monte Carlo methods, and nonparametric methods. Students will make extensive use of statistical software throughout the course, P-MTH 657 or STA 610.

STA 665. Applied Bayesian Statistics. (3 h)
An introduction to Bayesian statistics and computational methods for performing Bayesian data analysis. Topics may include conjugate distributions, objective prior distributions, Bayesian inference, hierarchical models, and Markov chain Monte Carlo methods. P - STA 610 and a previous course in regression.

STA 668. Time Series and Forecasting. (3 h)
Methods and models for time series processes and autocorrelated data. Topics include model diagnostics, ARMA models, spectral methods, computational considerations, and forecasting error. P-STA 610 or MTH 657, or POI.

STA 679. Advanced Topics in Statistics. (1-3 h)
Topics in statistics not considered in regular courses or which continue study begun in regular courses. May be repeated for credit if the topic varies. Content and prerequisites vary.

STA 682. Readings in Statistics. (1-3 h)
Reading in statistical topics to provide a foundational basis for more advanced study in a particular area. May not be used to satisfy any requirement in the MS degree with thesis. No more than three hours may be applied to the requirements for the MS degree without thesis May be repeated for credit for a total of 3 hours.

STA 683. Individual Study. (1-3 h)
A course of independent study directed by a faculty adviser. By prearrangement. May be repeated for credit.

STA 684. Internship in Statistics. (1-3 h)
Individual, external internship in a professional setting, completed under the supervision of a faculty member. The student is responsible for identifying and obtaining the internship. May be repeated for credit. Pass/Fail only. Permission of Instructor required.

STA 710. Stochastic Processes and Applications. (3 h)
This course includes the axiomatic foundations of probability theory and an introduction to stochastic processes. Applications may include Markov chains, Markov chain Monte Carlo with Metropolis-Hastings, Gibbs sampling, Brownian motion, and related topics, with an emphasis on modern developments. This course is cross-listed as MTH 757. P-STA 610 or MTH 657 and MTH 611 or POI.

STA 711. Advanced Statistical Inference. (3 h)
Advanced mathematical treatment of point estimators, hypothesis testings, and confidence intervals, using both frequentist and Bayesian approaches. P-STA 610 or MTH 657, or POI.

STA 712. Generalized Linear Models. (3 h)
Extensions of the classical linear model to cover models for binary and count data, ordinal and nominal categorical data, and time-to-event data, along with numerical maximization techniques needed to fit such models. Additional topics may include longitudinal data, the Expectation-Maximization algorithm, non-linear models, or related topics. P-STA 612 and STA 711 or POI.

STA 720. Bayesian Analysis. (3 h)
Fundamental concepts, theory, and computational methods for Bayesian inference. Topics may include decision theory, evaluating Bayesian estimators, Bayesian testing and credible intervals, Markov chain Monte Carlo methods, and hierarchical models. P-STA 610 or MTH 657, or POI.

STA 721. Statistical Aspects of Clinical Trials. (3 h)
An introduction to clinical trials from a statistician's perspective. Materials will cover the design of clinical trial including power calculations and randomization procedures, the analysis of study outcomes, and the communication of results. Assumes knowledge of R and general linear models. P-STA 612.

STA 733. Applied Survival Analysis. (3 h)
Analysis of time-to-event outcomes subject to censoring and truncation. Topics include nonparametric, semiparametric, and parametric approaches to modeling survival quantities and conducting inference. P-STA 610.

STA 742. Causal Inference. (3 h)
This course provides students with essential skills for conducting causal inference analyses. Students will learn how to implement causal inference methods, evaluate critical assumptions, and perform sensitivity analyses to rigorously assess causal relationships. P-STA 610.

STA 779. Topics in Statistics. (3 h)
Topics and prerequisites vary by instructor. May be repeated for credit ifthe topic varies.

STA 791. Thesis Research. (1-9 h)
Research performed under the supervision of the thesis advisor. A research proposal is written and approved by the thesis committee, and an oral presentation is given on the research plan. May berepeated for credit. Satisfactory/Unsatisfactory.

STA 792. Thesis Research. (1-9 h)
Research performed under the supervision of the thesis advisor, in preparation for a thesis defense. May be repeated for credit. Satisfactory/Unsatisfactory P-satisfactory completion of STA 791.

Sustainability (SUS)

SUS 600. Communications Workshop. (1 h)
Effective, persuasive communication requires clarity, engaging language, sound reasoning, and an informed appreciation of audience. To that end, this workshop seeks to equip students as change agents that can effectively articulate a vision for ways to invest in and contribute to creating a sustainable future. Specifically, the Communication Skills Workshop teaches you how to apply such concepts to forms of written (e.g., memos) and oral (e.g., PowerPoint presentations) communication typically found in business and non-profit organizational settings. The workshop includes numerous interactive lessons that focus on the essentials of dynamic and economical writing, argument and evidentiary analysis, engaging and well-researched oral presentations, and audience adaptation.

SUS 601. Professional and Leadership Skills. (1 h)
This workshop will support students in understanding and developing the skills required to be thought leaders in the sustainability field. Learning will focus on leadership skills required to create meaningful change in various organizational settings. Topics include influencing others, collaborating in teams, managing conflict and working across cultures. To enhance self-awareness we will employ self-assessments and the creation of a program-long development plan.

SUS 602. Scientific Literacy. (1 h)
In this course we will focus on the nature of scientific inquiry, and explore how it is pursued, reported, and applied. In particular, we will focus on the intersection of climate science and the scientific study of attitudes/beliefs about climate science. We will also explore the projected impacts on and policy responses from the state of North Carolina.

SUS 603. Natural Capital Valuation and Ecosystem Services. (1 h)
This workshop introduces the concept of Ecosystem Services and Natural Capital Valuation in theory and practice. It focuses broadly on the concept of natural capital and the process of valuing ecosystem services, and more closely on how the process is working at multiple scales in policy, markets and projects. Ecosystem services is a new and rapidly growing field that crosses science, policy and management. Practitioners have varied expertise; from spatial modelers, research scientist, and economists, to policy makers and social scientists. We will cover some of the historical development and current state of the ecosystem services markets specifically for carbon and water. Critical spatial tools of GIS and spatial modeling of ecosystem services are also introduced.

SUS 625. Environmental Decision-Making. (3 h)
The complex nature of the environment makes the choices made about environmental issues difficult and incomplete. The course offers a simple but comprehensive understanding of the important interplay between science, economics, and values that must be considered, when making informed environmental decisions. A selection of case studies from around the world are highlighted but emphasis will be given to case studies from the United States.

SUS 630. Global Coastal Management. (3 h)
Major issues impacting coastal zones of the world are explored. Management and governance themes used in shaping coastal behavior are emphasized from both an integrative and multi-disciplinary perspective. In particular, the following three issues are examined: the threat to coastal environments from a rapidly growing human population and pollution; the destruction of critical resources and vital ecosystems through unsustainable economic activities; and the difficult challenges governments face in crafting effective coastal management initiatives. The course takes a global perspective, but some emphasis will be given to coastal zones of the United States.

SUS 691. Special Topics. (1-3 h)
Examination of topics not covered in the regular curriculum.

SUS 694. Internship. (1-4 h)
Internships are available for a student who has completed one year of graduate study and desires experience working in the private sector or a nonprofit or government agency. Internships typically take place during the summer months and last for three months, although the timing and duration may be adjusted to satisfy each student's needs and the type of internship available. Credit hours are adjusted based on the length of the internship. The student receives a written evaluation from the host organization mentor and is required to submit a written report of his/her work. May be repeated for up to 4 credits.

SUS 695. Individual Study. (1-3 h)
Opportunity to pursue a topic covered in a regular course in greater depth or topics relevant to the student's field of concentration. Usually involves extensive reading and tutorial sessions with a faculty supervisor. Written papers may be required. May be repeated for up to 6 credits.

SUS 701. Global Human Systems. (3 h)
Sustainability is a human term with context specific connotations—in other words deployments of the term in the public sphere often tell us more about the perceptions and values of those utilizing the term than they do about what is central to achieving sustainability. In this course we will interrogate the ways in which uses of this human term intersect with earth systems and politics. Students will gain a basic understanding of earth systems science, gather historical data related to human impacts on earth systems, and study human values as they relate to the other-than-human entities with which they share their habitats. Fundamentally, the goal of this course is to go beyond the traditional disciplinary divides (natural science, social sciences, and humanities), to begin to sketch the outlines of each of these areas while highlighting important convergences and differences.

SUS 702. Sustainable Organizational Management. (3 h)
Are organizations part of the problem or part of the solution – or both? What practices will produce desirable organizational outcomes and improve the environment? This course will provide information to address these questions. It will include an overview of the presence and impact of sustainable practices in private and public sector organizations. The course information and experiences will equip participants with the ability to think critically about the trade-offs inherent in the relationship between certain organizational decisions and sustainability best practices.

SUS 703. Natural Science for Sustainability. (3 h)
Students will explore qualitative and quantitative chemical and physical aspects of sustainability for waste, water, air, and energy. The course provides an in-depth scientific understanding of the most important nonrenewable and renewable energy sources. Students will study the world's present and future energy needs, focus on energy production, consumption, and environmental impact, and explore ways in which these principles relate to sustainability. The sustainability and environmental trade off of different energy systems will be studied.

SUS 704. Environmental Law and Policy. (3 h)
To understand how we can move toward sustainability domestically and abroad, we must understand how and why law and policy are developed, challenged, and changed. This course will look at the historical development of environmentalism and the movements that provided the impetus for modern environmental legal regimes, as well as case studies illustrating contemporary environmental issues. We will cover common law and statutory remedies for private citizens, principles of federalism and separation of powers, agency rule-making, the role of the judiciary in environmental law and policy, and international environmental law. Each case study in this course will emphasize one of the major U.S. environmental statutes, so that upon completion of the course you will not only have a foundation in law and policy processes but also a familiarity with the most significant U.S. statutory schemes.

SUS 705. Applied Sustainability 1. (2 h)
This course will introduce you to the practice of building sustainable systems in today's world. In it you should improve your ability to understand design principles for sustainability, assess sustainability actions of organizations at all levels, use different frameworks to track and assess sustainability, and apply your skill sin effectively managing change. The objective of this course is for us to learn how to advance sustainability today, see what might be done in the future, and identify opportunities that exist for each of us. We will use a variety of learning experiences, including site visits, group presentations and in class presentations by outside leaders.

SUS 706. Applied Sustainability: Creativity and Impact. (2 h)
Applied Sustainability is crafted to experience sustainability in action through Human Centered Design. Human Centered Design is a philosophy, a set of abilities, a set of mindsets, and a set of practices that proves invaluable in addressing the sustainability issues of our time. This way of working is a making based approach to problem solving and solution development. You will apply and practice the mindsets and abilities of design in different scenarios and different scales to address sustainability problems, and develop and build on new to the world ideas. This class is project oriented and team based. This course as a journey culminates with a client/community based sustainability practicum. Overall, this class emphasizes new ways of approaching work and life.

SUS 710. Sustainable Urban Planning and the Built Environment. (3 h)
This course will explore the tenets of sustainable construction and high performance building practices and prepare students for the U.S. Green Building Council's LEED Green Associate Exam. LEED, or Leadership in Energy & Environmental Design, is a certification program that recognizes best-in-class building strategies practices. Sustainable architecture and construction seeks to minimize the negative environmental impact of buildings by efficiency and moderation in the use of materials, energy, and development space. This course widens the conversation to include how buildings and other community planning impacts urban environments. The focus of this planning is to satisfy construction and design goals with sustainable outcomes.

SUS 715. Environmental Sustainability in a Global Context. (2 h)
Students will develop practical problem-solving skills that address the challenges of climate change in an international context. This experiential learning course employs a variety of interdisciplinary approaches to explore concepts related to climate change adaptation. Students will interact with practitioners and stakeholders in various economic and political sectors to develop a group client-based project that supports real policy and management decisions on sustainable practices. Students will have the opportunity to travel internationally to visit affected areas and meet with government officials, researchers, conservationists, and economic planners. This course offers students a firsthand opportunity to conduct field research, hone interviewing practices, draft policy reports, and engage clients.

SUS 720. Sustainability Practices and Policy in a National Context. (1 h)
This seminar is designed specifically for graduate students in sustainability, students who are early and mid-career professionals looking to transition into careers in sustainability or environmental protection through business, government, NGOs, policy institutes or non-profits. Students will hear from and meet with a range of experts in climate change and sustainability, learn about the work they do and get a clear understanding of the challenges they face (practically and politically) and the impact they can have. This seminar will model possible career paths and provide networking opportunities.

SUS 791. Thesis Research. (1-4 h)
This course is one of the two options, the other being an internship, which would satisfy the capstone requirement for the MA students, needed for graduation.

Translation and Interpreting Studies (TIS)

TIS 684. Internship. (3 h)
This internship requires 60 hours of shadowing, observing, and interpreting/translation work in a professional interpreting/translation setting in the student's chosen field of interest.

TIS 731. Applied Interpreting Studies. (3 h)
This course explores connections between interpreting as a profession and the cutting-edge research in interpreting studies. It focuses on the intercultural and intersocietal aspects of the interpreter's agency. Based on case studies in simultaneous, consecutive, remote and other modes of interpreting, this course prepares students to address practical issues such as clients' expectations, education of users on AI-supported interpreting, and professional ethics in interpreting.

TIS 732. Methodology of Teaching Interpreting. (3 h)
This course discusses syllabus design and lesson planning for teachers of interpreting in a field-specific context. It focuses on the development of interpreting skills, including use of recent technological advancements. It explores classroom management options and strategies for providing feedback to students. It also covers internship design methods, including an on-site observation of various interpreting settings.

TIS 733. Critical Translation Competencies for the Language Industries. (3 h)
This course focuses on developing high-level translation competencies essential for successfully contributing to the contemporary language industries. Students will explore foundational concepts, pragmatic strategies, and the socio-political dimensions of translation, preparing them to critically assess and adapt their work to various contexts. By the end, students will possess the expertise needed to critically and effectively engage in the evolving landscape of modern language services and technologies.

TIS 734. U.S. Heritage Speakers. (3 h)
This course provides a comprehensive introduction to the fields of heritage languages, bilingualism, and bilingual education from a cross-disciplinary perspective. It covers a wide variety of topics, including individual and societal conceptions of heritage and dominant languages, general bilingual educational issues, bilingualism and multilingualism as they relate to identity, political and ideological issues, Spanish in the U.S. among many others.

TIS 735. Discourse Organization and Interpreting. (3 h)
This course will explore the links between social situations, interlocutors, and the functional aspects of communicative events. The course will focus on several important methodological approaches that have been developed to do discourse analysis in as much as they highlight important features of translation and interpreting. We will review the varied traditions around meaning-making, including sociolinguistics, conversation analysis, critical discourse analysis, and discursive psychology. Readings will tie in traditional topics in discourse analysis with specific issues in translation and interpreting. This course will link theory to practice. One session per week will be devoted to practical, hands-on activities using real world data in various formats:written transcripts, aural speeches, or videos.

TIS 736. Organizational Behavior and Interpreting. (3 h)
This course is designed to apply organizational behavior theories into the interpreting field in order to bring about a better understanding of how individual interpreters or interpreter teams actually behave in large-scale project/organizational setting. Particular emphases are placed on interpreter's roles and on how to evaluate interpreter's performance, motivate interpreters, and maintain a high level of interpreting services. This course prepares students to enter managerial positions in translation/interpreting companies or organizations.

TIS 737. Remote Interpreting. (3 h)
Through discussion-oriented sessions, simulations and testing, and talks given by guest speakers, this language-neutral course examines the origins and evolution of remote interpreting, including over-the-phone interpreting, video-mediated interpreting and remote simultaneous interpreting in community and conference settings. Students will explore issues in professionalism and ethics as well as future trends in remote interpreting.

TIS 738. Editing, Revising and Post-editing. (3 h)
This course delves into the critical aspects of machine translation and post-editing (MTPE), focusing on the nuances of refining machine-generated translations. Students will enhance their editing and revising, applying these to both machine-generated and human translations. The course emphasizes practical MTPE techniques, addressing accuracy and coherence, as well as more extensive edits to improve fluency and readability. Through hands-on exercises and real-world examples, students will be equipped to tackle the diverse editing challenges in the rapidly evolving field of machine translation and language services.

TIS 739. Transcreation in Global Marketing. (3 h)
As one of the fastest-growing areas of the translation industry, transcreation is often seen in marketing, advertising, political, literary, and entertainment arenas. However, misconceptions about transcreation abound. In this language-neutral course, students will gain insights into the challenges that this type of service poses and discuss how transcreation differs from other types of translation services. Students will develop and refine a practical transcreation skill set by completing complex real-life transcreation projects individually and as a team, where they understand the processes at play and the different roles involved.

TIS 742. Spanish Specialized Translation. (3 h)
Develops and refines a practical translation skill set within specialized domains, for example, technology, law, international relations, media. Students gain familiarity with textual conventions that govern source and target texts in specialized contests and deepen their understanding of both Spanish and English as language for specific purposes.

TIS 743. Spanish-English Dialogue Interpreting. (3 h)
In this course students will develop advanced interpreting skills through bidirectional short consecutive translations in some major domains, including business, education, social care, and law. The course focuses on practicing active listening, delivery techniques, glossary preparation, public speaking skills, interpreter's professionalism and ethics in dialogue interpreting.

TIS 750. Contrastive Chinese-English Grammar. (3 h)
Advanced study of structures and vocabulary. Exploration of general principles behind 'atom-like' rules and the main lexical dichotomies, and how implications for meaning help in choosing the best option. Discussion of structures that are usually taught as idiomatic but are more compositional than previously thought: subject-predicate vs. topic-comment, verb-particle, verb-complement, serial verb construction, relative clause construction, reduplication, imperative, negation, adposition, etc.

TIS 751. Chinese-English Translation. (3 h)
Development of advanced translating skills through the practice eror bidirectional translation with a strong emphasis on Chinese into English translating. Some back translation exercises will be offered as part of this course.

TIS 752. Chinese-English Specialized Translation. (3 h)
Develops and refines a practical translation skill set within the specialized domains such as medicine, science, business, etc. In addition, students will gain familiarity with textual conventions that govern source and target texts within these domains and deepen their understanding of both Chinese and English as language for special purposes. Apart from translation proper, students will also be able to analyze texts for register, style, tone and content to determine the most appropriate process to achieve the highest quality translation. Finally, students' research skills will improve through the examination of available resources and the creation of domain-specific resources.

TIS 753. Chinese-English Dialogue Interpreting. (3 h)
In this course students will develop advanced interpreting skills through bidirectional consecutive translations in some major domains, including business, education, social care, healthcare and law. The course focuses on practicing active listening, delivery techniques, glossary preparation, public speaking skills, interpreter's professionalism and ethics in dialogue interpreting.

TIS 755. Chinese-English Simultaneous Interpreting. (3 h)
This practice-focused course develops advanced Chinese-English simultaneous interpreting skills across domains like education, business, and healthcare using state-of-the-art booths and technology. Students will start with foundational techniques such as shadowing and attention management, then progress to domain-specific practices including remote interpreting, booth etiquette, and handling complex language elements. The course also emphasizes the use of glossaries and ethical considerations to prepare students for real-world interpreting challenges.

TIS 760. U.S. Landscapes: Systems, Culture and Norms. (3 h)
This course is designed for international students to increase their knowledge of US socio-political structures and Anglo-American cultural identity through the study of U.S. history, politics and popular traditions.

TIS 770. Multimedia Translation. (3 h)
This language-neutral course examines concepts, characteristics, tools and software of multimedia translation, a distinctive and booming sector in the arena of translation and localization. Students will explore translation challenges encountered and creative techniques adopted in translating films, TV shows, documentaries, anime, etc.

TIS 784. Applied Research Project I. (3 h)
The applied research project will establish a rigorous connection between the practical experience in the workplace and the more theoretical experience in research and in the classroom, In Applied Research Project I, students will learn about general research methodology and receive individualguidance to choose between research project options.

TIS 785. Applied Research Project II. (3 h)
The Applied research project will establish a rigorous connection between the practical experience in the workplace and the more theoretical experience in research and in the classroom. In Applied Research Project II, students will complete their research project under the supervision of a project director.

TIS 786. Special Topics. (1-3 h)
Examination of topics not covered in the regular curriculum. May be repeated for credit.

TIS 789. Independent Study. (1-3 h)
Independent research project to meet the needs and interests of selected students to be carried out under the direction of a faculty member. Must be approved by program director. May be repeated for credit.

Women's, Gender, and Sexuality Studies (WGS)

WGS 600. The WGS Field Guide to Museums. (1.5-3 h)
This hands-on course consists of gender/sexuality-focused lectures, readings, workshops, digital storytelling, and guided visits of university and art galleries, museums, historical societies and homes, community centers, and other local institutions that have relevant artwork or archive materials, whether print or digital. Provides opportunities to develop expertise in interpretation of collections through a gender lens while considering the role of public education and creative thinking in community settings.

WGS 601. Feminist Political Thought. (3 h)
Examines major themes, concepts and theories in feminist political thought. Themes explored include schools of feminist thinking, feminism's diverse expressions over time, theories of the interlocking systems of oppressions, and the connection between theory and practice.

WGS 602. Studies in Gender and Literature. (3 h)
Addresses ways in which gender and literary practices intersect in various cultures and historical periods. Attention will be paid to the role of literature in formulating, subverting, or resisting gender norms. May be repeated for credit if topic differs.

WGS 603. Gender and Sexuality in Literary Adaptations. (1.5-3 h)
Focuses on understanding the relationship between written literature (novel, play, short story, poem) and its adaptation to another genre or medium (film, painting, video game, song, etc.) through the lens of gender and sexuality. It can also involve adapting the same literary work in the same genre or medium for different purposes, i.e. to work with a cast of differing gender or race, in a smaller or larger venue (or on the road), for a different demographic or ethnic group, or in a different geographical/historical setting. This course studies how adaptations enable us to rework literature and rethink attitudes about issues of gender, ethnicity, class, history, and identity.

WGS 604. Transgender History, Identity, and Politics. (3 h)
Explores the experiences of and responses to transgender, gender non-conforming, and intersex (TGI) people in nineteenth- and twentieth-century America. We will examine how scientific/medical authorities, legal authorities, and everyday people have understood and responded to various finds of gender non-conformity.

WGS 606. Queer Public Histories. (3 h)
This course explores how public history projects (oral histories, museums, archives, documentaries) document gay, lesbian, and queer communities in the U.S. Discusses how historical and contemporary LGBTQ stories have been collected and examines the various queer identities that merge through this process.

WGS 609. Gender, Humanities, and the Environment. (3 h)
Provides a framework for understanding how the Humanities can contribute to civic conversations about environmental change, examining in particular the role of women environmentalist and eco-feminist in constructing global environmental narratives.

WGS 610. Gender, Power, and Violence. (3 h)
A research-centered study of various issues related to violence, power, and gender in American society. Emphasizes sociological analysis of competing theoretical explanations of violence with respect to race, class, gender, religion, and sexual orientation.

WGS 617. Introduction to Sexuality Studies. (3 h)
Provides an interdisciplinary grounding in the foundations of queer culture and studies, with a critical interrogation of sex, gender, sexuality, pleasure, and embodiment in popular culture, literature, health, science, and politics.

WGS 618. Film Lab in Women's, Gender, and Sexuality Studies. (1.5-3 h)
Viewing, dissecting, and analyzing films. Fosters the skills to create complex cinematic analyses and explore feminist theoretical issues related to spectatorship.

WGS 619. Women Playwrights. (3 h)
Examination of selected plays and/or performance texts by women. Focus varies, for example, looking at works by contemporary American women or early women dramatists such as Hrosvitha, Sor Juana, and Aphra Behn.

WGS 621. Introduction to Women's, Gender, and Sexuality Studies. (3 h)
An interdisciplinary course that integrates materials from the humanities and the sciences, taught by WGS faculty representing at least two fields. Topics include critical methods and practical solutions, history and theory of women's gender, and sexuality studies, women in culture and society, and cross-cultural issues of gender, ethnicity, social class, disability, and sexual orientation.

WGS 622. Introduction to Women's and Gender, and Sexuality Studies. (3 h)
An interdisciplinary course that integrates materials from the humanities and the sciences, taught by WGS faculty representing the least two fields. Topics include critical methods and practical solutions, history and theory of women's gender, and sexuality studies, women in culture and society, and cross-cultural issues of gender, ethnicity, social class, disability, and sexual orientation.

WGS 623. Feminist, Womanist, and Mujerista Theologies: Constructive Perspectives on Christian Thought. (3 h)
Discourse featuring womanist and feminist theologies as "lived" and "living" religious orientations that shape ethical worldviews, earth communal landscapes, and experiences of spiritual life.

WGS 624. Queer Theologies. (1.5-3 h)
This seminar-style reading course surveys classic and new works in queer theology. Queer theology transgresses dominant constructions of gender identity and sexuality; and as such, it can be seen as an expression of the Christian gospel that subverts human understandings of life, community, and the divine. The course explores biblical and Christian theological perspectives on sexuality, social constructions of sexuality, and issues such as power, marriage equality, and sexual ethics.

WGS 625. Feminist Leadership Project. (1.5 h)
Explores the principles of feminist leadership to deepen self-awareness about personal leadership skills and gain tools for creating feminist social change. This highly interactive class welcomes students who are new to feminist thought/activism as well as those seeking to deepen their engagement with feminism. Satisfactory/Unsatisfactory.

WGS 626. Telling Women's Lives: Writing about Entrepreneurs, Activists, and Thought Leaders. (3 h)
This course will use an interdisciplinary approach to address fundamental issues of female leadership by examining recent developments in long- and short-form narratives about women (biography, essays, profiles) and employing journalistic tools to interview and write profiles of women entrepreneurs, activists, and thought leaders.

WGS 627. The Feminist Book Society. (1.5-3 h)
A reading course designed to introduce students to classic and contemporary feminist texts. Emphasis on close reading, discussion, and writing. May be repeated for credit if texts differ.

WGS 629. Feminist Anthroplogy. (3 h)
Examines cultural constructions of gender and sexuality from a cross-cultural perspective and the relationship between feminism and cultural rights activism through time. Emphasizes how varied forms of feminisms are constituted within diverse social, cultural, and economic systems. Students consider how feminists are negotiating positions at the intersection of cultural and human rights.

WGS 630. Gender and the Politics of Health. (3 h)
This course examines the intersections of gender, medicine, health, and illness, with a focus on the U.S. context. Topics include: reproduction, mental illness, breast cancer, heart disease, and HIV/AIDS, among others. We explore the following questions: How have women and men interacted differently with the field of medicine, as healers, patients, and subjects of medical research? How do social and cultural norms about gender influence the definition of illness categories? What role does medicine play in defining and enforcing the boundaries of what is considered socially acceptable in terms of gender? How does gender as social role affect health outcomes?.

WGS 632. Men, Masculinity, and Power. (3 h)
Introduces the burgeoning interdisciplinary field of masculinity studies. Students will explore the social, historical, and cultural constructions of masculinity and male roles (as fathers, sexual and romantic partners, and workers) and how these constructions differ according to race, class, sexuality, etc. In addition, the course will examine how norms about masculinity simultaneously empower men as a group and many individual men, while also disadvantaging any individual men and regulating the behavior of all men. Students will explore possibilities for challenging hegemonic forms of masculinity and for creating new types of masculinity.

WGS 633. Sexual Politics in the United States. (3 h)
This course explores the politics of sexuality in the United States. Drawing on feminist scholarship, queer theory, and lesbian, gay and transgender studies, we will explore different historical and theoretical approaches to thinking about issues of power and sexuality. We will discuss sexual identities and cultures, state regulation of sexuality, sexual commerce, and cultural representations of sexuality, among other topics. Throughout we will examine how other social categories such as race, class, gender, and disability intersect with the politics of sexuality.

WGS 640. Feminist Philosophy. (3 h)
Examines feminist approaches to philosophical theorizing. Topics may include feminist critiques of the scope and methods of mainstream philosophy, feminist approaches to ethics, epistemology and philosophy of language, and feminist conceptions of the self, sexuality, and moral agency.

WGS 645. Girls Gone Wild: A Century of Misbehavior. (3 h)
This course analyzes what made girls and women "bad" and "wild" in the twentieth-century United States, and how such judgments changed over time. This class engages closely with novels, short stories, movies, comics, podcasts, and an opera with an eye to what behaviors were considered appropriate, and how they interrelated with sexual attraction, with economics, and with love. We examine the relationship between being configured as a sexual object (a recipient of desire) and a sexual subject (a possessor of desire) and come to a critical understanding of how the "proper" and "improper" forms of both were constantly in flux. We ask how race, ethnicity, and queerness interacted with hegemonic concepts of beauty and desire, and whether "masculinity" and "femininity" are necessarily attached to men and women. We read theories of sex and gender, examine concepts of projection and male hegemony, and ask how men as well as women are shaped by rules of appropriate behavior.

WGS 646. Visual Narratives: Image, Sequence, Story. (3 h)
This class investigates the relationship of image, sequence, and story in typography, comics, woodcut novels, and photographic books, and films, as well as fiction and poetry wit unusual visual elements, and then asks how these various elements offer different visual and textual expressions of sexuality. Students will conduct formalist analyses and further investigate visual narrative through creative exercises with the goal of developing an aesthetic sensibility and a technical vocabulary that enable them to discuss visual narrative with precision. Please note that some visual narrative will include graphic scenes of sexuality.

WGS 647. Joan Didion/Edmund White: Personal/History. (3 h)
This course examines Didion and White, two of the most important American writers of the past fifty years. Both are known for their journalism as well as their fiction, and their interest in U.S. cultural and political history, especially in terms of gender and sexuality, permeates their novels. This course analyzes three works by each author, developing themes from motherhood, sexuality, imperialism, rebellion and AIDs.

WGS 649. Invert, Pervert, Bull Dagger, Queen: U.S. Queer Fiction in the 20th Century. (3 h)
This class explores the history of lesbians, gay men, bisexuals, the transgendered, and other queers through fiction by and about them written over the last century in the United States. We also consider biography, artifacts of popular culture, comics, drama, and film. Topics include the relationship between homosexual desire and queerness in a broad sense; LGBTQ children; biological and psychological understandings of sexual orientation; and how social construction informs sexual identity and desire.

WGS 650. Biocultural Perspectives on Women and Aging. (3 h)
Examines biological, socio-psychological, and cultural issues affecting older women.

WGS 651. Race and Ethnic Diversity in America. (3 h)
Different race and ethnic experiences are examined through an institutional approach that examines religion, work, gender, schooling, marriage patterns, and culture from a cross-cultural perspective. Grand theoretical schemes like the "melting pot" are critiqued for their relevance in an age of new cultural expectations among the many American ethnic groups.

WGS 658. Mothers and Daughters Literature and Theory. (3 h)
Examines literature and feminist theories on motherhood and the mother-daughter relationship. A cross-cultural perspective is taken.

WGS 662. Feminism and Theatre. (3 h)
Introduces the student to the intersection of theater and feminism and experience its interdisciplinary lineage and academic interventions. Students will learn and apply feminist theory which looks beyond the conventional theater for a continuum of performance that includes play, ritual, sports, everyday life and social roles, as well as performance art, global and intercultural performance. Engaging with various feminist theoretical approaches from radical and liberal feminism to intersectional and transnational feminism, students will be encouraged to critically examine race, class, gender, sexuality, ethnicity, and nationality expressed on and offstage. Through readings, discussions, lectures, research and creative assignments, indoor and outdoor classroom activities, and campus events, students will explore historical and socio-political factors entangled with representation, identification, and spectatorship, and strengthen their capacity to exercise feminist practice in theater and performance.

WGS 663. Gender and Sexuality in Contemporary Korea. (3 h)
This course will examine gender and sexuality in Korean TV, film, K-pop, protests, and everyday performances, focusing on diverse socio-political issues within and beyond the Korean Peninsula. Topics include: the evaluation of feminism, #metoo movement, LGBTQ cultures, sex work, aging, plastic surgery industry, postcolonial and post-Korean war conflicts, and transpacific affinities.

WGS 664. Women of Color, Feminism, and the Politics of Resistance in the US. (3 h)
Examines historical and contemporary issues and current events affecting the lives of African American, Asian American, Latina, and Native American women. Exploring major theoretical and practical viewpoints in women's studies scholarship, the course will reveal the importance of intersectionality between race, gender, sexuality, class, and/or ethnicity in the everyday lives of multicultural women. Through arts-based civic engagement projects and activities, this course will also encourage students to formulate their own language of resistance against multiple forms of oppression.

WGS 665. Transnational Asia and Asian American Feminism. (3 h)
This course will analyze historical, socio-political, and cultural events as well as contemporary issues structuring the lives of Asian American women and queer community. Students will learn intersectional and transnational feminist approaches to examine race, class, gender, sexuality, ethnicity, nationality, and kinship in Asian American art and activism.

WGS 671. Making Sense of the News through a Feminist Lens. (1-3 h)
Inquiry into news literacy from a feminist perspective, with the intention to identify gender bias and consider questions of empowerment, exclusion, consumerism, and how to navigate the digital landscape to distinguish verified, reliable news from propaganda.

WGS 677. Special Topics. (1.5-3 h)
Includes such a wide range of women's, gender, and sexuality studies topics as gender issues in the 21st century, critical approaches to gender issues, and the emergence of feminist thought. May be repeated for credit if topic differs.

WGS 680. Sexuality, Law, and Power. (3 h)
Explores a wide variety of issues related to sexual identity and orientation by looking at the ways in which law can constrict development as well as a catalyst for change. Examines how religion and popular morality shape the law, and are shaped by it.

WGS 681. Gender and the Law. (3 h)
This course will examine how the law affects women's lives in a number of contexts. The class will consider a number of different areas, including but not limited to employment, education, family responsibilities, violence against women, and other issues affecting women's bodies, including pornography and prostitution. The class will also review a number of feminist legal theories and issues relating to the intersection of gender with race and class.

WGS 683. Race, Gender, and the Courts. (3 h)
This course examines the impact of state and federal court cases upon the evolution of race and gender relations in the U.S. from 1789 to the present. Each case is placed within the political, economic and social historical context for the given time periods. Race includes Native Americans, African Americans, Asian Americans, and Latino Americans. This class will analyze government intervention, inaction, and creative interpretation.

WGS 688. South Asian Women: Religion, Culture and Politics. (3 h)
This course examines the intersection of religion, race and gender of South Asian women from a feminist and postcolonial perspective.

WGS 696. Independent Study. (1-3 h)
Independent projects in women's gender, and sexuality studies, which either continue study begun in regular courses or develop new areas of interest. By prearrangement. May be repeated for credit.

WGS 697. Public Engagement in Women's, Gender, and Sexuality Studies. (1.5-3 h)
This class provides an opportunity for students to engage in work and research that is shared with the broader public, either on campus or in a local community. A maximum of 3 hours may apply to the major or minor.

WGS 698. Theory and Practice of Women, Gender, and Sexuality Studies. (3 h)
Examines the major themes and terminology in Women, Gender, and Sexuality Studies, with focus on its diverse and multicultural expressions through time. Themes to be explored include schools of feminisms, interlocking systems of oppression and the connection between theory and practice.

WGS 699. Research Seminar in Women, Gender, and Sexuality Studies. (3 h)
A capstone, research-centered course in which students complete a significant research or creative project of their choosing situated within the field of Women's, Gender, and Sexuality Studies.

Writing (WRI)

WRI 606. Special Topics in Rhetoric and Writing. (1.5-3 h)
Study of significant rhetorical or writing theories and practices focused on one area of study. May be repeated once for credit.

WRI 640. Practice in Rhetoric and Composition. (3 h)
Training and practice in rhetorical analysis and composition. Students work on developing effective composing processes and strategies, then put them into practice toward a variety of purposes. Course topics vary across semesters. May be repeated once for credit.

WRI 641. Writing Center Pedagogy. (3 h)
Introduction to composition pedagogy and writing center theory and practices, with special emphasis on one-to-one and small group peer tutoring techniques.

WRI 644. Magazine Writing. (3 h)
Learn and practice the skills needed to produce magazine stories for publication. Focusing on a single topic of their own choosing, students learn advanced principles of interviewing, document research, story structure, character development, and explanatory journalism as they read and analyze some of the best magazine stories written over the past thirty years.

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Graduate Council and Faculty

The Graduate Council (2026-2027)

Name	Title	E-mail
Jackie Krasas, PhD	Dean	deanofthecollege@wfu.edu
Anthony Marsh, PhD	Senior Associate Dean (Reynolda)	marshap@wfu.edu
Dwayne Godwin, PhD	Senior Associate Sean (Bowman Gray)	dgodwin@wakehealth.edu
Allyn Howlett, PhD	Assistant Dean (Bowman Gray)	ahowlett@wakehealth.edu
Jennifer Rogers, PhD	Associate Dean for Students (Reynolda)	rogersjl@wfu.edu
Janet Tooze, PhD	Assistant Dean (Biomedical Sciences)	jtooze@wakehealth.edu

Graduate Council (3 year terms, August 1 - July 1)

Name	E-mail	Term
Lucy McGowan, Statistics	mcgowald@wfu.edu	Term Expires: 2028*
William Turkett, Computer Science	turketwh@wfu.edu	Term Expires: 2028
Kristie Foley, Implementation Science	kfoley@wakehealth.edu	Term Expires: 2028
Merideth Addicott, Translational Neuroscience	addicot@wakehealth.edu	Term Expires: 2028
Tom Hollis, Biochemistry	thollis@wakehealth.edu	Term Expires: 2028
Adam Hall, Biomedical Engineering	arhall@wakehealth.edu	Term Expires: 2026*
Fred Salsbury, Physics	salsbufr@wfu.edu	Term Expires: 2026*
John Lukesh, Chemistry	lukes@wfu.edu	Term Expires: 2026
Michael Olivier, Internal Medicine & Molecular Medicine	molivier@wakehealth.edu	Term Expires: 2027
Shannon Mihalko, Health & Exercise Science	mihalksl@wfu.edu	Term Expires: 2027
John Petrocelli, Psychology	petrocjv@wfu.edu	Term Expires: 2027
Ken Kishida, Biomedical Research	kkishida@wakehealth.edu	Term Expires: 2027

***serving second term**

Graduate Faculty Representative to Faculty Senate (4 year term)

Name	E-mail	Term
Kerry Danelson, Biomedical Engineering	kdanelso@wakehealth.edu	Term: 2022-2026
Erin Binkley, Counseling	binkleee@wfu.edu	Term: 2025-2029

The Graduate Faculty

Please visit the Graduate School's website (https://graduate.wfu.edu/faculty-search/) for a current list of all graduate faculty, please contact graduate@wfu.edu.

The Administration

Administration reflects leadership as of January 1, 2026. Year following name indicates year of hire.

Graduate School of Arts and Sciences

Jackie Krasas (2023)
Dean of the College and Graduate School of Arts & Sciences
BA, Lehigh University; PhD, University of Southern California

Anthony Marsh (1996)
Senior Associate Dean, Arts and Sciences
BPE, MEd, Western Australia; PhD, Arizona State University

Dwayne Godwin (1997)
Senior Associate Dean, Biomedical Sciences
BA, University of West Florida; PhD, University of Alabama (Birmingham)

Jennifer Rogers (2015)
Associate Dean for Graduate Students, Arts and Sciences
BA, UNC-Greensboro; MA, Wake Forest, PhD, Syracuse University

Dixie Ross (2008)
Assistant Dean for Finance and Administration, Arts and Sciences
BA, MBA, Vanderbilt University

Administration – Reynolda Cabinet

Susan R. Wente (2021)
President
BS, University of Iowa; PhD, University of California Berkeley

Nell Jessup Newton (2019)
Interim Provost
BA, University of California, Berkeley; JD, University of California College of the Law, San Francisco

Ebony Boulware (2023)
Dean, Wake Forest School of Medicine, Chief Science Officer and Vice Chief Academic Officer, Advocate Health
BA, Vassar College; MD, Duke University; MPH, John Hopkins Bloomberg School of Public Health

Ashleigh Brock (2021)
Chief of Staff, President's Office
BA, University of Richmond; MA, Michigan State University; PhD, College of William and Mary

Shea Kidd Brown (2022)
Vice President for Campus Life
BA, University of Southern Mississippi; MEd, University of Georgia; PhD, University of Memphis

Andrew R. Chan (2009)
Vice President, Innovation and Career Development
BA, MBA, Stanford

John Currie (2019)
Director of Athletics
BA, Wake Forest University; MS Tennessee

James J. Dunn (2009)
Special Assistant to the President & CEO, Verger Capital Management, LLC
BS, Villanova

Brett Eaton (2011)
Vice President of Communications and Chief Communications Officer

Julie A. Freischlag, MD (2018)
CEO, Atrium Health Wake Forest Baptist, Chief Academic Officer and Executive Vice President of Advocate Health, and Executive Vice President of Health Affairs
BS, University of Illinois; MD, Rush University

Paula Gentius, PhD (2024)
Secretary of the Board of Trustees and Director of the Board Office
BA, Hampton University; MA, Ohio University; JD, University of Detroit Mercy School of Law; PhD, Hampton University

Andrew Klein (2023)
Dean, School of Law
BS, University of Wisconsin; JD, Emory University

Jackie Krasas (2023)
Dean of the College and Graduate School of Arts & Sciences
BA, Lehigh University; MS, PhD, University of Southern California

Charles Iavocou (2001)
Dean, School of Professional Studies
BS, University of Vermont; PhD, University of British Columbia

Eric Maguire (2019)
Vice President for Enrollment
BA, Muhlenberg College; MA, Indiana University

Mark A. Petersen (2008)
Senior Vice President for University Advancement
BA, Brandeis; MA, University of Southern California

Stacie Petter (2022)
Acting Dean, School of Business
BS, Berry College; MBA, PhD (Georgia State University)

Lauren Pressley (2025)
Dean, Z. Smith Reynolds Library
Master of Library and Information Studies, UNC Greensboro; BA, North Carolina State University

Jacqueline A. Travisano (2023)
Executive Vice President and Chief Financial Officer
BA, Robert Morris University; MBA, Chatham University; EdD, Nova Southeastern Unive

José Villalba (2011)
Vice President for Diversity and Inclusion and Chief Diversity Officer
BS, MEd, EdS, PhD, Florida

Corey D. B. Walker (2023)
Dean, School of Divinity
BA, Morehouse College; MDiv and PhD, Princeton Theological Seminary

Brian White (2023)
Vice President and General Counsel
JD, University of Iowa

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