bulletin of
Duke University
2012-2013
Undergraduate Instruction
The information in this bulletin applies to the academic year 2012-2013 and is accurate and current, to the extent possible, as of May, 2012. The university reserves the right to change programs of study, academic requirements, teaching staff, the calendar, and other matters described herein without prior notice, in accordance with established procedures.

Duke University prohibits discrimination and harassment, and provides equal employment opportunity without regard to race, color, religion, national origin, disability, veteran status, sexual orientation, gender identity, sex, or age. The university also makes good faith efforts to recruit, employ, and promote qualified minorities, women, individuals with disabilities, and veterans. It admits qualified students to all the rights, privileges, programs, and activities generally accorded or made available to students. The university also does not tolerate harassment of any kind.

Questions, comments or complaints of discrimination or harassment should be directed to the Office of the Vice-President for Institutional Equity, (919) 684-8222. Further information, as well as the complete text of the harassment policy, may be found at: www.duke.edu/web/equity/.

Duke University recognizes and utilizes electronic mail as a medium for official communications. The university provides all students with e-mail accounts as well as access to e-mail services from public clusters if students do not have personal computers of their own. All students are expected to access their e-mail accounts on a regular basis to check for and respond as necessary to such communications, just as they currently do with paper/postal service mail.

Information that the university is required to make available under the Student Right to Know and Campus Security Acts may be obtained from the Office of University Relations at (919) 684-2823 or in writing to 615 Chapel Drive, Box 90563, Duke University, Durham, North Carolina 27708.

Duke University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, masters, doctorate, and professional degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Duke University.

The Bulletin of Duke University publishes the following titles: The Duke Community Standard in Practice: A Guide for Undergraduates, Divinity School, Fuqua School of Business, Graduate School, School of Law, School of Medicine, Nicholas School of the Environment, School of Nursing, Sanford School of Public Policy, Summer Session, and Undergraduate Instruction. All bulletins are available online at: http://www.registrar.duke.edu/registrar/studentpages/student/bulletins.html

May 2012
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# Academic Calendar

**2012-2013**

Trinity College of Arts and Sciences. The Pratt School of Engineering. Consult calendars of the various schools for additional information.

## Summer 2012

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<tr>
<td>February 20</td>
<td>Monday—Registration begins for all Summer sessions</td>
</tr>
<tr>
<td>May 16</td>
<td>Wednesday—Term I classes begin. <strong>The Monday class schedule is in effect on this day,</strong> (Therefore, all summer classes meet this day.) Regular class meeting schedule begins on Thursday, May 17; Drop/Add continues</td>
</tr>
<tr>
<td>May 17</td>
<td>Thursday—Regular class meeting schedule begins</td>
</tr>
<tr>
<td>May 18</td>
<td>Friday—Drop/Add for Term I ends</td>
</tr>
<tr>
<td>May 28</td>
<td>Monday—Memorial Day holiday. No classes are held</td>
</tr>
<tr>
<td>June 13</td>
<td>Wednesday—Last day to withdraw from Term I classes</td>
</tr>
<tr>
<td>June 25</td>
<td>Monday—Term I classes end</td>
</tr>
<tr>
<td>June 26</td>
<td>Tuesday—Reading period</td>
</tr>
<tr>
<td>June 27</td>
<td>Wednesday—Term I final examinations begin</td>
</tr>
<tr>
<td>June 28</td>
<td>Thursday—Term I final examinations end</td>
</tr>
<tr>
<td>July 2</td>
<td>Monday—Term II classes begin</td>
</tr>
<tr>
<td>July 4</td>
<td>Wednesday—Independence Day holiday. No classes are held</td>
</tr>
<tr>
<td>July 5</td>
<td>Thursday—Drop/Add for Term II ends</td>
</tr>
<tr>
<td>July 30</td>
<td>Monday—Last day to withdraw with W from Term II classes</td>
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## Fall 2012

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<tr>
<td>August 21</td>
<td>Tuesday—New student orientation begins</td>
</tr>
<tr>
<td>August 22</td>
<td>Wednesday, 11:00 a.m.—Convocation for new students</td>
</tr>
<tr>
<td>August 27</td>
<td>Monday, 8:30 a.m.—Fall semester classes begin; Drop/Add continues</td>
</tr>
<tr>
<td>September 3</td>
<td>Monday—Labor Day. Classes in session</td>
</tr>
<tr>
<td>September 7</td>
<td>Friday—Drop/Add ends</td>
</tr>
<tr>
<td>September 27</td>
<td>Thursday—4:30 p.m. Founders’ Day Convocation</td>
</tr>
<tr>
<td>September 30</td>
<td>Sunday—Founder’s Day</td>
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<tr>
<td>October 12</td>
<td>Friday—Last day for reporting midsemester grades</td>
</tr>
<tr>
<td>October 17</td>
<td>Wednesday, 8:30 a.m.—Classes resume</td>
</tr>
<tr>
<td>October 31</td>
<td>Wednesday—Registration begins for Spring semester, 2013</td>
</tr>
<tr>
<td>November 9</td>
<td>Friday—Last day to withdraw with W from Fall 2012 classes</td>
</tr>
<tr>
<td>November 14</td>
<td>Wednesday—Registration ends for Spring semester, 2013</td>
</tr>
<tr>
<td>November 15</td>
<td>Thursday—Drop/Add begins for Spring semester 2013</td>
</tr>
<tr>
<td>November 20</td>
<td>Tuesday, 10:30 p.m.—Thanksgiving recess begins</td>
</tr>
<tr>
<td>November 26</td>
<td>Monday, 8:30 a.m.—Classes resume</td>
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* The dates in this calendar are subject to change. Past, current, and future academic calendars can be found online at: http://registrar.duke.edu/registrar/studentpages/student/academicalendars.html.
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<td>Saturday-Monday—Reading period</td>
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<td>11</td>
<td>Tuesday, 9:00 a.m.—Final examinations begin</td>
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<tr>
<td>16</td>
<td>Sunday, 10:00 p.m.—Final examinations end</td>
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**Spring 2013**

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University Administration

GENERAL ADMINISTRATION
Richard H. Brodhead, PhD, President
Victor J. Dzau, MD, Chancellor for Health Affairs; and President and Chief Executive Officer, Duke University Health System, Inc.
Peter Lange, PhD, Provost
Tallman Trask III, MBA, PhD, Executive Vice President
Pamela J. Bernard, JD, Vice President and General Counsel
Kyle Cavanaugh, MBA, Vice President for Administration
Tracy Futhey, MS, Vice President, Information Technology and Chief Information Officer
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Paula B. Mclain, PhD, Dean, Graduate School
William Boulding, PhD, Dean, Fuqua School of Business
William L. Chameides, PhD, Dean, Nicholas School of the Environment
Catherine L. Gilliss, DNSc, Dean, School of Nursing & Vice Chancellor for Nursing Affairs
Richard Hays, PhD, Dean, Divinity School
Thomas C. Katsouleas, PhD, Dean, Pratt School of Engineering
Bruce R. Kuniholm, PhD, Dean, Sanford School of Public Policy
David F. Levi, JD, Dean, School of Law
Stephen Nowicki, PhD, Dean and Vice Provost, Undergraduate Education
Laurie L. Patton, PhD, Dean of the Faculty of Arts and Sciences
Nancy Allen, MD, Vice Provost, Faculty Diversity and Faculty Development
Deborah Jakubs, PhD, Vice Provost for Library Affairs
Scott Lindroth, PhD, Vice Provost for the Arts
James S. Roberts, PhD, Executive Vice Provost for Finance and Administration
Susan Roth, PhD, Vice Provost for Interdisciplinary Studies
James Siedow, PhD, Vice Provost for Research
Keith Whitfield, PhD, Vice Provost for Academic Affairs
Neal F. Triplett, MBA, President & CEO, DUMAC
John J. Noonan, MBA, Vice President, Facilities

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Bruce W. Cunningham, PhD, Assistant Vice Provost and University Registrar
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Deborah Jakubs, PhD, University Librarian and Vice Provost for Library Affairs
David Jamieson-Drake, PhD, Director, Institutional Research
Deborah A. Johnson, PhD, Assistant Vice Provost for Undergraduate Education and Director of Administrative and Community Support Services
Scott Lindroth, PhD, Vice Provost for the Arts
Jacqueline Looney, EdD, Associate Vice Provost for Academic Diversity and Associate Dean of the Graduate School
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Katharine Bader, MA, Assistant Vice Provost and Director, Student Information Services and Systems
James S. Roberts, PhD, Executive Vice Provost for Finance and Administration
Susan Roth, PhD, Vice Provost for Interdisciplinary Studies
James N. Siedow, PhD, Vice Provost for Research
Keith W. Whitfield, PhD, Vice Provost for Academic Affairs
ARTS AND SCIENCES
Laurie L. Patton, PhD, Dean of Arts and Sciences
Lee D. Baker, PhD, Dean of Academic Affairs of Trinity College and Associate Vice Provost for Undergraduate Education
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Angela O’Rand, PhD, Dean of the Social Sciences
Robert Calderbank, PhD, Dean of the Natural Sciences
Robert F. Barkhau, BS, Director, Arts and Sciences Facilities
Sandra P. Connolly, MS, Senior Associate Dean for Finance and Administration
Colleen Fitzpatrick, MEd, Assistant Vice President for Trinity College and Undergraduate Education
Edward D. Gomes, Jr., BS, Senior Associate Dean, Trinity Technology Services
Kevin W. Moore, PhD, Senior Associate Dean for Faculty Affairs
Lee W. Willard, PhD, Senior Associate Dean for Academic Planning and Associate Vice Provost

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Gerald L. Wilson, BD, PhD, Senior Associate Dean of Trinity College, Social Sciences, and Director of the Office of Pre-Law Advising
Elizabeth A. Fox, PhD, Associate Dean of Undeclared Students and Director of the Academic Advising Center
Paula E. Gilbert, PhD, Director and Associate Dean for Continuing Studies and Summer Session
Norman C. Keul, PhD, Associate Dean for Humanities and Interdisciplinary Programs
Margaret Riley, PhD, Director of Global Education Office and Associate Dean for Study Abroad
Ron Grunwald, PhD, Associate Dean for Natural Sciences and Director of the Undergraduate Research Support Office
Daniel C. Scheirer, PhD, Associate Dean for Natural Sciences and Director of the Office of Health Professions Advising
Sabrina L. Thomas, PhD, Associate Dean for Social Sciences, Director of the Office of Student Returns and Director of the Domestic Exchange Programs
Ingeborg Walther, PhD, Associate Dean for Humanities and Director of the Office of Curriculum and Course Development
Milton A. Blackmon, EdD, Associate Dean for Undeclared Students and Humanities, and Director of the Pre-Business Advising Office
Donna Kostyu, PhD, Associate Dean for Undeclared Students and Natural Sciences
Alyssa Perz-Edwards, PhD, Assistant Dean for Undeclared Students and Natural Sciences
Baishakhi Banerjee Taylor, PhD, Assistant Dean for Undeclared Students
Lynn K. White, MD, Associate Dean for Undeclared Students and Natural and Mathematical Sciences

EDMUND T. PRATT JR. SCHOOL OF ENGINEERING
Thomas Katsouleas, PhD, Dean
Linda Franzoni, PhD, Associate Dean for Undergraduate Education
Constance E. Simmons, MBA, Associate Dean for Undergraduate Affairs

STUDENT AFFAIRS
Larry Moneta, EdD, Vice President for Student Affairs
Zorila Airell, PhD, Assistant Vice President of Student Affairs for Campus Life
Rick Johnson, MBA, Assistant Vice President of Student Affairs for Residence Life, Housing, and Dining
Caroline Nisbet, MA, Assistant Vice President of Student Affairs for Resource Administration
Suzanne Wasiolek, JD, LLM EdD, Assistant Vice President of Student Affairs and Dean of Students

ADMISSIONS AND FINANCIAL AID
Christoph O. Guttentag, MA, Dean of Undergraduate Admissions
Alison Rabil, EdD, Assistant Vice Provost and Director of Financial Aid
Duke University

Duke University was created in 1924 by James Buchanan Duke as a memorial to his father, Washington Duke. The Dukes—a Durham family that built a worldwide financial empire in the manufacture of tobacco and the production of electricity in the Carolinas—had long been interested in Trinity College, the predecessor of Duke University. Trinity traced its roots to 1838 in nearby Randolph County, when local Methodist and Quaker communities joined forces to support a permanent school that they named Union Institute. After a brief period as Normal College (1851-59), a teacher-training institution, the school changed its name to Trinity in 1859, became a liberal arts college, and affiliated with the Methodist Church. The college moved to the growing city of Durham in 1892 when Washington Duke provided financial assistance and another local businessman, Julian S. Carr, donated land. In December 1924, the trustees graciously accepted the provisions of James B. Duke’s indenture creating the family philanthropic foundation, the Duke Endowment, which provided, in part, for the expansion of Trinity College into Duke University.

As a result of the Duke gift, Trinity underwent both academic and physical expansion. The original Durham campus became known as East Campus when it was rebuilt in stately Georgian architecture. West Campus, Gothic in style and dominated by the soaring tower of the Chapel, opened in 1930. East Campus then served as the home of the Woman’s College of Duke University until 1972, when the men’s and women’s colleges merged into the Trinity College of Arts and Sciences. Today, East Campus houses all first-year undergraduate students.

Duke has a long history of educating women. Three young women, the Giles sisters, received Trinity College degrees in 1878. Washington Duke’s gift to the school’s endowment in 1896 was based on the condition that the college would treat women “on an equal footing” by establishing an on-campus residence for them. When West Campus opened in 1930, the original Durham campus became the Women’s College of Duke University while Trinity continued as the name of the men’s undergraduate college. Now, about equal numbers of undergraduate women and men attend Trinity College and the Pratt School of Engineering combined.

Duke, likewise, has a long history in engineering. Engineering courses were taught intermittently in the nineteenth century beginning as early as 1851. Engineering became a permanent department in 1910, an undergraduate College of Engineering in 1939, and a School of Engineering in 1966 with the addition of graduate courses. The school was renamed the Edmund T. Pratt Jr. School of Engineering in 1999.

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Academic expansion of the university throughout its history has included the establishment of other new graduate and professional schools as well. The first divinity [B.D.] degree was awarded in 1927, the first Ph.D. in 1929, and the first M.D. in 1932. The School of Law, founded in 1904, was reorganized in 1930. The following year, the undergraduate School of Nursing was born, transforming in 1984 to a graduate school. The School of Forestry, which was founded in 1938, became the School of Forestry and Environmental Studies in 1974 and was renamed the Nicholas School of the Environment in 1995, adding "and Earth Sciences" to its name in 2000. The last professional school to become part of Duke University, the business school, was established in 1969 and renamed the Fuqua School of Business in 1980.

Modern times have seen Duke realize its founders’ aspirations, becoming a major center of learning far removed from its origins in a log schoolhouse in rural Randolph County. Its reach is now global. Many Duke schools and departments are consistently ranked among the nation’s very best, and several have achieved international prominence. The university frequently wins attention for its research achievements and academic innovations, and its faculty often is called upon to provide leaders for academic and professional organizations. Duke continues to work hard to honor James B. Duke’s charge to attain "a place of real leadership in the educational world."

Today, Duke embraces a diverse community of learners, including approximately 6,000 undergraduates from a multiplicity of backgrounds. Its motto, Eruditio and Religio, reflects the university’s fundamental belief in the union of knowledge and faith, the advancement of learning, and the defense of scholarship; its love of freedom and truth; and its valuation of service to others. Duke University has encouraged generations of students to understand and appreciate the world they live in, their opportunities, and their responsibilities.

For more information, visit http://library.duke.edu/uarchives/.

The Mission of Duke University

James B. Duke's founding indenture of Duke University directed the members of the University to "provide real leadership in the educational world" by choosing individuals of "outstanding character, ability and vision" to serve as its officers, trustees and faculty; by carefully selecting students of "character, determination and application;" and by pursuing those areas of teaching and scholarship that would "most help to develop our resources, increase our wisdom, and promote human happiness."

To these ends, the mission of Duke University is to provide a superior liberal education to undergraduate students, attending not only to their intellectual growth but also to their development as adults committed to high ethical standards and full participation as leaders in their communities; to prepare future members of the learned professions for lives of skilled and ethical service by providing excellent graduate and professional education; to advance the frontiers of knowledge and contribute boldly to the international community of scholarship; to promote an intellectual environment built on a commitment to free and open inquiry; to help those who suffer, to cure disease and promote health, through sophisticated medical research and thoughtful patient care; to provide wide ranging educational opportunities on and beyond our campuses for traditional students, active professionals, and life-long learners using the power of information technologies; and to promote a deep appreciation for the range of human difference and potential, a sense of the obligations and rewards of citizenship, and a commitment to learning, freedom and truth.

By pursuing these objectives with vision and integrity, Duke University seeks to engage the mind, elevate the spirit, and stimulate the best effort of all who are associated with the University; to contribute in diverse ways to the local community, the state, the nation, and the world; and to attain and maintain a place of real leadership in all that we do.

Resources of the University

The Faculty. Duke University originated as an undergraduate college in the nineteenth century. Its awarding of graduate and professional degrees and its preeminence in many fields of research came significantly later. Today, the sustaining of an historic devotion to undergraduate teaching is a major priority for Duke University. Duke commits itself to facilitating a sound education for its undergraduate students, most
significantly through its building of a strong faculty with expectations for personal attention to teaching along with dedication to research. Indeed, one of our most highly innovative faculty awards, the Bass Professorship, recognizes and fosters cross-fertilization between research interests and pedagogy.

In recent years, Duke has made major efforts to expand the breadth and quality of the faculty across the spectrum of disciplines. The overall university faculty now contains more than 2,000 full-time members, supplemented by instructors whose expertise in the field has qualified them for teaching. Recognizing that a diverse faculty enriches the curriculum and the overall undergraduate experience, Duke seeks to build its faculty with attention to what the whole person brings to the classroom. Faculty research of international acclaim informs undergraduate coursework, and classrooms commonly serve as incubators for new ideas. Undergraduates interact with senior faculty on a regular basis, including freshmen students in the Focus Program with a series of first-year seminars designed just for them. A number of faculty in the professional schools teach and mentor undergraduates, not only in the classroom but also through independent studies. Interdisciplinary teaching and learning are increasingly emphasized at Duke University in order to confront the complex intellectual and cultural challenges of our modern, global society.

The Library System. All Duke libraries, including those at the Divinity School, the Fuqua School of Business, the Law School, and the Duke University Medical Center, are open to undergraduates. Library services directed especially to undergraduates are available at the Lilly and Music libraries on East Campus, and on West Campus at the Perkins and Bostock libraries and the Rubenstein Rare Book & Manuscript Library. The Duke libraries Web site http://library.duke.edu is a gateway to books, journals, and databases as well as a source of information on topics such as finding images and citing sources.

Duke librarians are available at information desks throughout the libraries, and may also be reached by phone, e-mail, chat reference, and IM, accessible from the library Web site. In addition, librarians will meet by appointment with students for individual research consultations in which they can help identify useful sources for a research project, discuss effective search strategies, or just offer advice for getting started. Subject specialist librarians are available for research consultations on a particular topic.

The Mobile Library Web site at http://library.duke.edu/mobile gives users of handheld devices library hours and directions, contact information for Perkins reference desk, and links to other mobile sites including services and content from the Duke libraries’ digital collections.

Every campus library features wireless and high-speed Internet access as well as access to the online catalogs of materials held by all Duke libraries and the libraries of North Carolina State University, North Carolina Central University, and the University of North Carolina at Chapel Hill. Using a Duke I.D., undergraduates can borrow books from any of these libraries and request them online.

Undergraduates are encouraged to become familiar with all the Duke libraries, as each collection has its own character. The Lilly Library on East Campus houses the collections for the visual arts, art history, philosophy, and theater studies, and has services geared especially to first-year students. Undergraduates also have access to Lilly’s more than 20,000 feature films and documentaries as well as experimental and animated productions. In addition, Devil DVDs, a collection of current, popular DVDs, is available to students only. The Devil DVDs program is co-sponsored by Lilly and Duke Student Government. The Music Library, also on East Campus, has a rapidly expanding collection of music scores, books, journals and music-related media, including more than 14,000 CDs, thousands of LPs (many jazz), and hundreds of DVDs and VHS recordings that students can check out.

On West Campus, the William R. Perkins Library and the adjoining Bostock Library and von der Heyden Pavilion form the university’s main research library complex. The collections support the social sciences and humanities, plus biological and environmental sciences, chemistry, engineering, mathematics, physics, statistics, and computer and decision sciences, and reflect Duke’s emphasis on interdisciplinarity and globalization. There are extensive collections from and about East and South Asia, Latin America, Africa, and Europe as well the United States and one of this country’s largest collections of Canadiana. The print collections are complemented by electronic resources: tens of thousands of e-journals, databases, and statistical tools. The library offers the Robert F. Durden Prize annually to recognize undergraduates’ excellence in
research and their use of the library’s general collections and services. The information commons on the first floor of Perkins and the first floor and lower level of Bostock are outfitted with computers loaded with an array of software. Selected computers have scanning, networking, and Web development capabilities. Perkins lower floor 1 houses the Link, a teaching and learning commons where there are interactive classrooms and smaller workshop/studio spaces designed to accommodate six to eight students collaborating in work groups. Perkins and Bostock also offer a variety of study spaces. There are secluded carrels and informal seating as well as large reading rooms, many with spectacular views of the campus. The glass-walled von der Heyden Pavilion, home of the Perk, the library’s café, is a popular destination for study and conversation as well as a cup of coffee.

Duke undergraduates have the opportunity at the Rubenstein Rare Book & Manuscript Library to use unique primary source materials that range from ancient papyri to the records of twentieth-century advertising agencies. The collections support research in a wide variety of disciplines and programs, including African American studies, anthropology, classics, economics, history, the history of medicine, literature, political science, religion, sociology, and women’s studies. Librarians work with individual students and make class presentations to help identify materials related to research projects. To encourage undergraduate use of its holdings, this library annually offers the Middlesworth Award for the best student papers written using materials from the library’s collections. Digital versions of selected materials from the Rubenstein Library are available at the library’s Web site: http://library.duke.edu/rubenstein. The Duke University Archives, also part of the Rubenstein Library, collects, preserves, and administers the records of the university, including the records of student organizations.

The Pearse Memorial Library is located in Beaufort, North Carolina, at the Duke Marine Laboratory. Its holdings are in marine sciences and policy-related aspects of the marine environment.

The Duke libraries host film screenings, concerts, lectures, author visits, book discussions, and other events throughout the year that are open to students. In addition, the Friends of the Duke University Libraries sponsor contests and awards for students. The Jeremy North Student Book Collectors Contest is offered in alternating years. Contest winners receive gift certificates redeemable at the Gothic Bookshop. The Friends also sponsor a $750 award that supports undergraduate summer research in archives, museums, and libraries. The award is administered by the university’s Undergraduate Research Support Office and is presented annually. The Friends’ most popular student event may be the study break it hosts at the Perkins and Lilly libraries at the end of every semester during exams. Students are offered homemade baked goods, beverages, and encouragement.

The Medical Center Library & Archives provides the services and collections necessary to further educational, research, clinical, and administrative activities in the medical field. Services are available to Duke Medicine faculty, staff, and students in the School of Medicine, School of Nursing, allied health programs, and graduate programs in the basic medical sciences. The Library also serves Duke Hospital and Health System.

Over 200,000 volumes and approximately 5,886 electronic biomedical journal titles are available. Most books published before 1995 and journals published before 1985 have been stored in the Duke Library Service Center located off Briggs Avenue. More current print materials are kept within the Library facility. The Frank Engel Memorial Collection consists of a small group of books on health and nonmedical subjects for general reading, together with several newspapers and popular magazines.

Library services include reference, in-depth consultations, expert searching of databases, customized and individual group training, online tutorials, circulation, and document delivery services. Workstations for searching databases and the online catalog are available in the entrance lobby and other areas of the library. A computer classroom for hands-on training is located on the lower level of the Library. Archives provides access to its collections for scholarly research and administrative work and can assist individuals in locating specific information, photographs, and documents concerning the history of the Medical Center.

The Medical Center Library & Archives is located in the Seeley G. Mudd Building above the Searle Center. Detailed information on services and resources may be found in the information guides available at
the Library and on the Website at http://www.mc.library.duke.edu. Additional information about Archives can be found at http://archives.mc.duke.edu.

The J. Michael Goodson Law Library provides access to rich collections of electronic and print resources for legal research and scholarship for the law school, and the entire Duke community. The library staff is highly knowledgeable in law, legal research, and in the uses of information technology and will assist in all facets of legal research and use of the law library collections. All Duke students who require access to legal literature are welcome to use the library, consult with our law-trained reference librarians, and check out circulating materials.

The law library relies increasingly on electronic sources of legal information while continuing to develop and maintain in-house collections of print and other resources to support research and scholarship at the law school and university. It is one of the strongest research collections of legal literature in the region including current and retrospective primary materials from courts, legislatures and administrative agencies. In addition to books and treatises, the law library has available journals, encyclopedias, reference materials, and finding tools on all legal subjects for the United States and foreign jurisdictions, as well on topics of comparative and international law.

Reflecting Duke’s emphasis on interdisciplinary approaches to scholarship and learning, our collections provide access to a broad range of resources on law and on law’s intersections with other disciplines. Because nearly every area of legal study is enhanced by consideration of comparative or international perspectives, the law library maintains strong foreign and international law collections to support research in these areas and Duke’s focus on internationalization. The foreign law collection is extensive in coverage with long-standing concentrations in European law and growing collections in Asian and Latin American law. The international law collection is strong in primary source materials and monographs on both private and public international law topics.

For more information visit the law library Web page at: http://library.law.duke.edu. Keep up with current news and announcements by following the Goodson Blogson at: http://dukelawref.blogspot.com/.

The Office of Information Technology. The Office of Information Technology (OIT) is responsible for computing and communications services and support for the university community. OIT’s website, oit.duke.edu, offers software downloads, detailed procedures, numerous contact points and many other resources to help students, faculty and staff make the most of information technology resources at Duke.

Computing. The entire campus, including all undergraduate residence halls and Central Campus apartments, is equipped with high-speed wireless, and residence halls are also wired for access to Duke’s computer network. Members of the Duke community are assigned their own e-mail accounts, which they have access to from their own computers or from computers on any Internet-enabled computer via WebMail. During the first week of school, OIT helps students establish their network connections and get started with Duke’s many IT resources.

Computer Labs, Kiosks, and ePrint. There are more than 20 general purpose computer labs and kiosks across Duke, designed to meet a wide spectrum of student needs. Students also have access to a campus-wide system of printers that allows users to send a document to the print queue at one location on campus and retrieve the printout at any station on the network. For additional information, visit oit.duke.edu/comp-print.

The OIT Service Desk. Service Desk staff are available to assist students with Duke-supported software, hardware and services in person at the Link in Perkins Library and via phone, online chat, email and web form. See oit.duke.edu/help for more information.

SWAT (Students Workers Assisting with Technology). One of OIT’s first priorities when students arrive on campus is to make sure they get connected to the Duke network. SWAT, a team of technically trained student consultants, ensures that all students’ personal computers are connected to the network within the first week of classes.

Technology Training. Undergraduate and graduate students can take advantage of training workshops on computer security and popular software applications such as Microsoft Word, Excel and PowerPoint; and
Adobe Photoshop and InDesign. The sessions, typically one hour long, include useful skill-building techniques. For additional information or to register for a workshop, visit oit.duke.edu/comp-print/training.

**Telephones.** Duke offers emergency 911 service in on-campus residences. There is no fee for this service, but students must supply their own phones. Wireless 911 calls are also routed to local emergency call centers. For additional information, see oit.duke.edu/vvw/telecom/students.

**Storage and Backup Services.** OIT offers personal Web-based storage (WebFiles) and discount automatic personal-computer backup services through a vendor. For more information, see oit.duke.edu/comp-print/storage.

**Science Laboratories.** In addition to the teaching and research laboratories in the departments of natural and social sciences and in the Pratt School of Engineering, there are other facilities in which some advanced undergraduates work on individual projects. These include the Duke University Marine Laboratory in Beaufort, North Carolina; the Duke Forest, adjacent to the campus; the Duke University Lemur Center in Duke Forest; the Triangle Universities Nuclear Laboratory; and the Brain Imaging and Analysis Center in the Medical Center. Undergraduates have the opportunity to pursue research in an array of science facilities across the campus, including the Medical Center, the Levine Science Research Center, the Fitzpatrick Center for Engineering, Medicine and Applied Sciences, and the French Family Science Center.

**Duke as a Residential University**

Duke enjoys a long tradition as a residential university and has sought to provide for undergraduates attractive on-campus housing in both residence halls and apartments. While the university was established to provide a formal educational opportunity for students, Duke has always taken the position that education encompasses social and personal development as well as spiritual and intellectual growth. Duke seeks to provide a supportive environment substantially anchored in its residential program.

Educational, cultural, recreational, social, and outdoor adventure programming is planned and presented throughout the year for living groups through the cooperative work of Student Affairs, Trinity College of Arts and Sciences, the Pratt School of Engineering, and resident students. There are a number of faculty members who live in residence halls. Seminar rooms are also located in several houses. The goals of these various programs are to enhance the quality of intellectual and social life for the residents on campus, to facilitate student-faculty interaction outside of the formal classroom setting, and to develop a greater sense of community within the individual residence halls as well as within the greater university.

**The Undergraduate College and School**

Undergraduate students in Trinity College of Arts and Sciences and the Pratt School of Engineering take advantage of the rich resources available across the schools and institutes that make Duke such a distinguished research university. Undergraduates learn, engage, and connect with committed professors and mentors whose innovative research is recognized around the world. Trinity and Pratt students interact with these faculty members not only in the classroom and the laboratory, but in a variety of settings, formal and informal. This gives students the opportunity to exchange ideas with professors, graduate students, and broader communities.

Duke students are empowered to learn, expected to change, and encouraged to lead. A Duke education is based on the understanding that students grow intellectually and personally through successive experiences that are often transformative. Duke provides undergraduates with four years of rewarding learning experiences during which they generate, evaluate, integrate, and apply knowledge; develop fluency across cultures; learn to value diversity and difference; and become active and ethical agents of change in their communities and in the world. This is what President Brodhead calls “learning to make a difference.”

One of our core values is applying "knowledge in the service of society." With the schools of the arts & sciences, environment, engineering, and public policy each offering undergraduate instruction, students can approach real-world problems from different fields of inquiry. Duke also offers many service and learning opportunities such as Global Education, DukeEngage, student organizations, and research opportunities that involve students directly with the many major challenges confronting society.
The Duke Community Standard

Duke University is a community dedicated to scholarship, leadership, and service and to the principles of honesty, fairness, respect and accountability. Citizens of this community commit to reflect upon these principles in all academic and non-academic endeavors, and to protect and promote a culture of integrity.

To uphold the Duke Community Standard:

- I will not lie, cheat, or steal in my academic endeavors;
- I will conduct myself honorably in all my endeavors; and
- I will act if the Standard is compromised.

Trinity College of Arts and Sciences. Trinity is Duke’s liberal arts college. Steeped in academic tradition and infused with a sense of dynamic engagement, the College embraces the enduring philosophy of teaching and learning that empowers students with a broad base of knowledge and a strong sense of values and ethics. The College enhances the liberal arts tradition with robust opportunities to participate in independent research as well as civic and global engagement.

Trinity College provides students with the opportunity to connect directly with the scholarship of our faculty. Faculty mentors guide our undergraduates in their own research, much of it at the cutting edge of scholarship in the humanities, natural sciences, and social sciences. In fact, undergraduates are integral to the production of knowledge as well as artistic productions.

Trinity students learn to communicate persuasively, bring meaning to information, discern competing claims, and develop capacity for reasoning, analysis, and empathy. Students join academic conversations grounded in values of integrity, freedom of inquiry and expression, respect for diversity and difference, and reliance on reason and evidence.

Trinity College’s 645 faculty members teach in 34 departments and programs. Many teach and collaborate across traditional disciplinary boundaries, which create distinctive interdisciplinary opportunities for students to learn without limits. The innovative course of study Trinity College students pursue encourages inquiry in and outside the classroom, laboratory, and studio. Global education, service learning, internships, and research opportunities complement classroom instruction to infuse students with the excitement of discovery and the opportunity to use knowledge in the service of society.

Pratt School of Engineering. The undergraduate engineering program at Duke University is designed both for students who intend to become professional engineers and for those who desire a modern, general education based on the problems and the promises of a technological society. The environment in which students are educated is as important in shaping their future as their classroom experiences. In the Pratt School of Engineering this environment has two major components: one is modern technology derived from the research and design activities of faculty and students in the school; the other is the liberal arts environment of the total university, with its humanitarian, social, and scientific emphases.

Engineering is not a homogeneous discipline; it requires many special talents. Some faculty members in the Pratt School of Engineering are designers; they are goal-oriented, concerned with teaching students how to solve problems, how to synthesize relevant information and ideas and apply them in a creative, feasible design. Other engineering faculty members function more typically as scientists; they are method-oriented, using the techniques of their discipline in their teaching and research to investigate various natural and artificial phenomena.

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Degree Programs and Academic Credit
Degrees and Academic Credit

Duke University offers in Trinity College of Arts and Sciences the degrees of Bachelor of Arts and Bachelor of Science, and in the Pratt School of Engineering the degree of Bachelor of Science in Engineering. Within the curriculum of each college or school, students have the major responsibility for designing and maintaining a course program appropriate to their background and goals. They are assisted by faculty advisors, departmental directors of undergraduate studies, and academic deans. Students must accept personal responsibility for understanding and meeting the requirements of the curriculum.

Credit toward a degree is earned in units called semester courses (1.0 s.c.), commonly abbreviated as courses, which ordinarily consist of three to four hours of instruction each week of the fall or spring semester or the equivalent total number of hours in a summer term. Double (2.0) courses, half (.5) courses, and quarter (.25) courses are also recognized.

Trinity College of Arts and Sciences

A variety of approaches to a liberal education is provided by Program I and II. Either program leads to the Bachelor of Arts or Bachelor of Science degree, and each requires thirty-four semester courses to satisfy the requirements for the degree.

PROGRAM I

This innovative curriculum is meant to encourage breadth as well as depth and provide structure as well as choice. It reflects Duke’s desire to dedicate its unique resources to preparing its students for the challenging and rapidly changing global environment. The curriculum provides a liberal arts education that asks students to engage a wide variety of subjects: arts, literatures, and performance; civilizations; natural sciences, quantitative studies; and social sciences. It supports a cross-cultural and interdisciplinary approach to knowledge and fosters the development of students’ abilities to read and think critically and in historically and ethically informed ways, to communicate lucidly and effectively, and to undertake and evaluate independent research.

The curriculum has two components: general education and the major.

The general education component includes two interrelated features: Areas of Knowledge and Modes of Inquiry. Since a course may have several intellectual goals and intended learning outcomes, it may potentially and simultaneously satisfy more than one general education requirement, as well as requirements of a major, minor, or certificate program.

Students must complete the requirements of the curriculum listed below and explained more fully on the following pages in order to satisfy the requirements for the degree. No degree requirements (including prerequisites), except the requirement for thirty-four courses credits and continuation requirements, may be met by a course passed under the satisfactory/unsatisfactory grading system unless by special permission of the Director of Undergraduate Studies of the respective department or program.

General Education requirements consisting of the following:

Required Courses:

Areas of Knowledge. Two courses (totaling 2.0) in each of the following five areas:

- Arts, Literatures, and Performance (ALP)
- Civilizations (CZ)
- Natural Sciences (NS)
- Quantitative Studies (QS) - One of the QS courses must be in Math, Statistics, or Computer Science
- Social Sciences (SS)
Modes of Inquiry. Courses designated as offering exposures to each of the following Inquiries, as indicated below:

- Cross-Cultural Inquiry (CCI): two (2.0) courses.
- Ethical Inquiry (EI): two (2.0) courses.
- Science, Technology, and Society (STS): two (2.0) courses.
- Foreign Language (FL): one to three courses (1.0 to 3.0) in the same language, determined by level of proficiency. The details of the FL requirement are explained more fully below.
- Writing (W): three (3.0) courses, including Writing 101 in the first year, and two writing-intensive (W) courses in the disciplines, at least one of which must be taken after the first year.
- Research (R): two (2.0) courses.

Advanced placement credits, international placement credits, and pre-matriculation credits for college courses taken elsewhere before matriculation in the first-year class at Duke do not count toward the general education requirements.

Independent Study courses do not count toward the general education requirements except for the Research designation, if officially designated as a research independent study course. A maximum of one research independent study (coded R) may be submitted toward the requirement of writing-intensive courses (W) in the disciplines.

Transfer courses and interinstitutional courses may be considered for approval to count toward the Areas of Knowledge.

Small Group Learning Experiences

- During the first year: one full-course seminar (i.e., a 1.0 semester credit course, not partial credit courses).
- After the first year: a total of two full (2.0) courses designated as seminars, tutorials, independent study, or a thesis course. (The total may include partial credit courses.)

Course Credits

There are several separate and specific requirements concerning course credits in Trinity College. Thirty-four (34) course credits are required for graduation, not more than two with a grade of D, and including:

- No more than one credit of physical education activity (i.e., two half-credit activity courses, including military science physical activity courses), four credits of dance/American Dance Festival technique/performance (i.e., eight half-credit courses), two credits of house courses (i.e., four half-credit house courses), four credits in military science, and one credit from academic internships.
- No more than six course credits from Duke graduate and professional school courses that are not listed in the Duke University Bulletin of Undergraduate Instruction. These courses include all courses offered by the Schools of Business, Law, Divinity, Nursing, and all graduate courses numbered 700 and above. These courses are generally not open to undergraduates and require special permission to enroll. Independent study may not be taken in a professional school, unless listed as a course in the Duke University Bulletin of Undergraduate Instruction or offered through a Trinity College Arts and Sciences department or program. (See policies on Independent Study.)
- No more than four (4) courses taken satisfactory/unsatisfactory on an elected basis.
- The number of advanced placement, international placement credits, and transfer credits allowed varies. (See the sections on advanced placement and transfer of work elsewhere, in the chapter “Academic Procedures and Information.”)
The Major

The requirements for majors in the department or program in which a student wishes to obtain a bachelor’s degree (see below) are described after the course listings for each department or program.

The Minor

Minors are available although not required. They are described after the course listings for each department or program.

Elective Courses

Advanced placement credits, international placement credits, and pre-matriculation credit for college courses taken elsewhere before entering the first-year class may function only as elective courses and do not satisfy general education components, save for counting towards the 34 course credit requirement. Other courses that a student is using as electives may or may not carry general education designations.

General Education Components

Areas of Knowledge. Historically, the ways in which knowledge has been organized reflect both differences in subject matter and methods of discovery. This delineation is dynamic, marked by increasing differentiation and an array of academic disciplines. Disciplines have traditionally been grouped into three divisions: humanities, social sciences, and natural sciences. Duke has chosen to divide the humanities and natural sciences further to assure that undergraduates engage the full range of substantive concerns and approaches there. Thus, the curriculum adopts the following division of courses (into the five areas of knowledge): arts, literatures, and performance; civilizations; natural sciences; quantitative studies; and social sciences. Through courses in arts, literatures, and performance, students learn about the creative products of the human intellect; courses about civilizations ask students to attend to the analysis and evaluation of ideas and events that shape civilizations past and present. Through courses in natural sciences students learn how to interpret and utilize information in an increasingly technological world, while courses in quantitative studies, including computer science, mathematics, and statistics, help develop skills of inference and analysis. Through courses in the social sciences students learn about the causes of human behavior and about the origins and functions of the social structures in which we operate. Because Duke believes that engagement with each is essential, not optional, for an informed and educated person in the twenty-first century, students must satisfactorily complete two courses in each area.

Modes of Inquiry. The first three of the six required Modes of Inquiry address important cross-cutting intellectual themes that represent enduring focal points of inquiry and involve application of knowledge to which many disciplines speak. Students need to be prepared to grapple with issues pertaining to them throughout their lives and careers. These themes are (1) cross-cultural; (2) ethical; and (3) involving science, technology, and society. Students must take two courses providing exposures in each of these three modes.

• Cross-Cultural Inquiry (CCI). This Mode of Inquiry provides an academic engagement with the dynamics and interactions of culture(s) in a comparative or analytic perspective. It involves a scholarly, comparative, and integrative study of political, economic, aesthetic, social and cultural differences. It seeks to provide students with the tools to identify culture and cultural difference across time or place, between or within national boundaries. This includes but is not limited to the interplay between and among material circumstances, political economies, scientific understandings, social and aesthetic representations, and the relations between difference/diversity and power and privilege within and across societies. In fulfilling this requirement, students are encouraged to undertake comparisons that extend beyond national boundaries and their own national cultures and to explore the impact of increasing globalization.

• Ethical Inquiry (EI). Undergraduate education is a formative period for engaging in critical analysis of ethical questions arising in human life. Students need to be able to assess critically the consequences of actions, both individual and social, and to sharpen their understanding of the ethical and political implications of public and personal decision-making. Thus, they need to develop and apply skills in ethical reasoning and to gain an understanding of a variety of ways in which, across time and place, ethical issues and values frame and shape human conduct and ways of life.
• **Science, Technology, and Society (STS).** Advances in science and technology have wrought profound changes in the structure of society in the modern era. They have fundamentally changed the world, both its philosophical foundations, as in the Copernican or Darwinian revolutions, and in its practical everyday experience, as in the rise of the automobile and television. In the second half of the last century, the pace of such change accelerated dramatically; science and technology will play an even greater role in shaping the society of the future. If students are to be prepared to analyze and evaluate the scientific and technological issues that will confront them and to understand the world around them, they need exposure to basic scientific concepts and to the processes by which scientific and technological advances are made and incorporated into society. They need to understand the interplay between science, technology, and society—that is, not only how science and technology have influenced the direction and development of society, but also how the needs of society have influenced the direction of science and technology.

The six required Modes of Inquiry also include Foreign Language, Writing, and Research.

• **Foreign Language (FL).** Duke has set internationalization as an institutional priority in order to prepare students to live in an increasingly diverse and interdependent world. By developing proficiency in a foreign language, students can develop cross-cultural competency and become more successful members of their increasingly complex local, national, and international communities. Foreign language study substantially broadens students’ own experiences and helps them develop their intellect and gain respect for other peoples. Students need an awareness of how language frames and structures understanding and effective communication, and a study of foreign language improves students’ native language skills. To satisfy the foreign language competency requirement students must complete one of the following:

1.) For students who *enter* their language study *at Duke* at the intermediate level or above, and intend to complete their requirement in that language:
   - Completion of a 300-level course that carries the FL designation is required. Therefore, students who place into the first semester of the intermediate level will take three full courses, students who place into the second semester of the intermediate level will take two full courses, and students who place into the 300 level will take one course.
   - Russian requires an official written and oral proficiency examination at Duke for foreign language placement. Students who plan to continue studying any other language should consult with the director of undergraduate studies in that language or see the table "College Board Tests" in the chapter "Academic Procedures and Information."

2. For students who *begin* their study of a foreign language *at Duke* in an elementary language (first or second semester) course, and intend to complete their requirement in that language. The successful completion of three full courses in the same language that carry the FL designation is required.

   Students must be registered in an FL designated course no later than the first semester of their sophomore year. However, in exceptional circumstances, students may petition their dean for an extension of this deadline. Foreign language courses below the intermediate level cannot be used to satisfy requirements in Areas of Knowledge or other Modes of Inquiry.

• **Writing (W).** Effective writing is central to both learning and communication. To function successfully in the world, students need to be able to write clearly and effectively. To accomplish this, they need to have a sustained engagement with writing throughout their undergraduate career. Thus, students must take at least three writing courses at Duke: a) Writing 101 in their first year and b) two writing-intensive courses (W) in the disciplines, at least one of which must be taken after their first year. Through the latter type of courses students become familiar with the various modes and genres of writing used within an academic discipline and learn how the conventions and expectations for writing differ among the disciplines.

• **Research (R).** As a research university, Duke seeks to connect undergraduate education to the broad continuum of scholarship reflected in its faculty. Such a rich setting provides students with
opportunities to become involved in a community of learning and to engage in the process of discovery and move beyond being the passive recipients of knowledge that is transmitted to being an active participant in the discovery, critical evaluation, and application of knowledge and understanding. Engagement in research develops in students an understanding of the process by which new knowledge is created, organized, accessed, and synthesized. It also fosters a capacity for the critical evaluation of knowledge and the methods of discovery. This is important not only for undergraduates who wish to pursue further study at the graduate level, but also for those who seek employment in a rapidly changing and competitive marketplace. Students are required to complete two research exposures; one Research Independent Study (coded R) may be submitted for approval for the Writing in the disciplines (W) designation.

A course may carry up to two Areas of Knowledge, and up to three Modes of Inquiry. For students, a course may count towards only one Area of Knowledge, but towards multiple Modes of Inquiry.

**Small Group Learning Experiences.** By supplementing the classroom and lecture methods of instruction, small group learning experience courses assure students opportunities to engage in discussion, develop skills, refine judgment, and defend ideas when challenged. A seminar (ordinarily indicated by the suffix S) is an independent course of twelve to fifteen (exceptionally to eighteen) students who, together with an instructor, engage in disciplined discussion. The number of meeting hours per term is the same as for regular courses of equivalent credit. A tutorial (T) is a group of one to five students and an instructor meeting for discussion which is independent of any other course. For independent study students pursue their own interests in reading, research, and writing, but meet with an instructor for guidance and discussion. See the section on independent study in the chapter "Academic Procedures and Information."

To meet the first-year seminar requirement, students who transfer to Duke with sophomore standing are required to complete a seminar by the end of their sophomore year at Duke or to submit documentation that they completed a seminar course at the college they attended previously.

While discussion sections (D) and preceptorials (P) do not satisfy the formal Small Group Learning Experience in the college, they offer additional opportunities for students to participate in small classes. A discussion section, with an enrollment limit set by the individual department, is an integral part of a larger regular course, and every member of the class is enrolled. A preceptorial (P) is a group of usually no more than twelve students and an instructor in which discussion is the primary component; it is an additional and optional unit attached to a regular course involving one or more extra meetings per week. No additional course credit is given for a preceptorial.

Instructors in all courses that satisfy the requirements for small group learning experiences, including independent study, must meet with the students at least once every two weeks during the spring/fall semesters and at least once every week during the summer terms. The requirements for small group learning experiences are listed under Program I, above.

**Course Credits.** Thirty-four semester course credits are required for graduation at least 32 of the 34 course credits must be passed with a grade of C- or better. A maximum of two course credits passed with a D grade (D, D+, D-) can be used towards the 34 credits requirement. The thirty-four course credits may include (1) no more than one semester-course credit in physical education activity courses; (2) no more than four semester-course credits in dance/American Dance Festival technique/performance courses; (3) no more than two credits in house courses; (4) no more than six credits for graduate and professional school courses not listed in the Undergraduate Bulletin; (5) no more than one semester-course credit in elective academic internships; (6) no more than four semester-course credits in military science; and (7) no more than four elected courses taken on a satisfactory/unsatisfactory grading basis (not including courses offered only on that basis). American Dance Festival courses are included in the total limitation on dance technique/performance courses as noted above in this paragraph. Certain military science courses listed as carrying credit do not count toward graduation but appear on a student's permanent academic record. Military science courses, like physical education courses, do not satisfy Area of Knowledge requirements. For limitations on transfer credit and Advanced Placement credit, see the sections on advanced placement and Transfer of Work Taken Elsewhere in the chapter "Academic Procedures and Information" and the Residence section immediately below.
Residence. Undergraduates at Duke are expected to complete either the Bachelor of Arts or the Bachelor of Science degree in eight semesters of enrollment. This period may be extended for one semester by a student's academic dean for legitimate reasons. Very rarely, a student will be granted a tenth semester of study. This may only be approved by a dean when additional time is needed to complete degree requirements. Students are not permitted to enroll at Duke for more than ten undergraduate semesters.

For purposes of establishing the length of residence of a student admitted in transfer, the semesters completed at the institution previously attended are counted as semesters of residence at Duke.

For the minimum residence period, at least seventeen courses must be satisfactorily completed at Duke. If only seventeen courses are taken at Duke, they must include the student's last eight courses.

Major, Minor, and Certificate Programs

The Major. Students are expected to acquire some mastery of a particular discipline or interdisciplinary area as well as to achieve a breadth of intellectual experience. They therefore complete a departmental major, a program major, or an interdepartmental major. Majors, including interdepartmental majors, are designed to give students breadth and depth in a particular discipline or interdisciplinary area. The courses required for majors are specified by the department or academic program, and include a progression from lower to upper level courses. Departmental and program majors require a minimum of ten courses; interdepartmental majors require a minimum of fourteen courses. The total number of courses that a department/program may require at any level in the major and related departments may not exceed seventeen semester courses for the Bachelor of Arts degree and nineteen semester courses for the Bachelor of Science degree. At least half the courses for a student's major field must be taken at Duke although individual departments and programs offering majors may require that a greater proportion be taken at Duke. Students are responsible for meeting the requirements of a major as stated in the Bulletin for the year in which they matriculated in Trinity College although they have the option of meeting requirements in the major changed subsequent to the students' matriculation. A student who declares and completes requirements for two majors may have both listed on the official record. Two majors is the maximum number of majors that may be recorded on a student's record. See the chapter "Academic Procedures and Information" for the majors within each degree and for procedures on declaring a major.

Departmental or Program Major. The courses for a departmental major may include introductory or basic prerequisite courses and higher level courses in the major department or in the major department and related departments. Students may also complete work prescribed for a major in approved programs, often interdisciplinary. These departmental and program majors include: African and African American studies, art history, art history/visual arts (combined major), Asian and Middle Eastern studies, biology, biophysics, Canadian studies (second major only), chemistry, classical civilization, classical languages, computer science, cultural anthropology, dance, earth and ocean sciences, economics, English, environmental sciences, environmental sciences and policy, evolutionary anthropology, French, French/Italian (combined major), French/Spanish (combined major), German, history, international comparative studies, Italian and European studies, Italian/Spanish (combined major), linguistics, literature, mathematics, medieval and renaissance studies, music, neuroscience, philosophy, physics, political science, psychology, public policy studies, religion, Russian, Slavic and Eurasian studies, sociology, Spanish, statistical science, theater studies, visual arts, visual and media studies, and women's studies. The courses required for a major are specified by the department or program. The requirements appear in the section following each department or program's course descriptions in the chapter “Courses and Academic Programs” on page 110.

Interdepartmental Major. A student may pursue an interdepartmental major in two Trinity College departments or programs that offer a major. The student will work with an advisor in each department to adopt an existing interdepartmental major or to design a new one. The courses of study must be approved by the directors of undergraduate studies in both departments who will define a course of study covering core features of each discipline, such as theory, methodology, and research techniques. The criteria must include at least
fourteen courses split evenly between the departments. At least four of the seven courses required by each department are to be taught within the department. All courses must be among those normally accepted for a major in the two departments. The directors of undergraduate studies in the two departments must agree to an initial list of courses that the student will take in the two departments and jointly approve any subsequent changes to that course of study. Students proposing an interdepartmental major must present a descriptive title for the major and a rationale for how the program of study will help them realize their intellectual goals.

**The Minor.** The courses required for a minor are specified by the department/academic program. Minors require a minimum of five courses. Further information about specific minors is available under the description of the individual department/academic programs in the chapter "Courses and Academic Programs." Students may not major and minor in the same department/program with the exception of four departments in which multiple majors or concentrations are already possible: (1) Asian and Middle Eastern Studies, (2) Art, Art History, and Visual Studies, (3) Classical Studies, and (4) Romance Studies. At least half the courses taken to satisfy a minor must be taken at Duke although individual departments may require that a greater proportion be taken at Duke.

**Certificate Programs.** A certificate program is a course of study that affords a distinctive, usually interdisciplinary, approach to a subject that is not available within any single academic unit. All certificate programs consist of at least six course, including an introductory and a capstone course. Eligible undergraduates electing to satisfy the requirements of a certificate program may use for that purpose no more than two courses that are also used to satisfy the requirements of any major, minor, or other certificate program; individual programs may prohibit such double counting or restrict it to one course. At least half the courses taken to satisfy a certificate must be taken at Duke although individual programs may require that a greater proportion be taken at Duke.

Certificate programs are available in: Arts of the Moving Image; Children in Contemporary Society; Documentary Studies; East Asian Studies; Energy and the Environment; Genome Sciences and Policy; Global Health; Human Development; Information Science and Information Studies; Islamic Studies; Jewish Studies; Latin American Studies; Latino/a Studies in the Global South; Markets and Management Studies; Marine Science and Conservation Leadership; Marxism and Society; Policy Journalism and Media Studies; Politics, Philosophy and Economics; South Asian Studies; Study of Ethics; and Study of Sexualities.

- Fuller descriptions of these certificate programs appear in the chapters “Specialized Programs Within Academic Units” and “Courses and Academic Programs.”

**Restrictions on Majors, Minors, Certificates.** A student must declare one major and may declare a second (although not a third) major. The combined number of majors, minors, and certificate programs may not exceed three. Thus, a student may declare as a maximum: two majors and either a minor or a certificate program; a major and two minors; a major and two certificate programs; or a major, a minor, and a certificate program.

**PROGRAM II**

**Nature and Purpose.** Students in Trinity College who believe that their intellectual interests and talents would be better served outside the regular curriculum options under Program I are encouraged to consider Program II. Students admitted into Program II follow individualized degree programs to explore a topic, question, or theme not available as a course of study within Program I. As degree candidates in Program II, students separate themselves from the requirements and options of Program I including the requirement for a major and the options of multiple majors and minors.

Program II typically best serves the needs of students who find that their intellectual interests cross departmental boundaries or who perceive areas of learning in clusters other than those of the current departmental units of the university. Program II graduates have gone on to graduate and professional schools around the country and to satisfying positions in many areas of employment. They have won important awards, including Rhodes and Fulbright scholarships, and have received national recognition for career success. Among the many topics for Program II have been architectural design, bioethics, dramatic literacy,
the epic in music and literature, planetary and evolutionary biology, and U.S. national security. Full information is available on the Program II Web site: trinity.duke.edu/program-ii.

Admission. If interested in Program II, students should first attend an information session, and confer with the academic dean for Program II. Students will select a regular rank faculty advisor in one of the departments or programs of Trinity College; with approval of the Director of Undergraduate Studies, that department or program will become the sponsor for the student. Application to Program II requires students to propose a topic, question, or theme for the degree program and to plan a special curriculum adapted to their individual interests and talents. The student and faculty advisor together assess the student's background, interests, and ambitions and evaluate the resources at the university, or outside it, to support those ambitions.

The curricular program proposed by a Program II candidate must address the student's specific interests. It must also offer a coherent plan for learning rather than a sampler of interesting courses and should incorporate the depth and breadth of study expected of a liberal education in Trinity College. Programs may be proposed for either the Bachelor of Arts or the Bachelor of Science degree; in the latter case, the sponsoring department must offer a Program I major within the B.S. degree option. The program must be approved by the sponsoring department or program and also by the Committee on Program II of the Faculty Council of Arts and Sciences.

Upon endorsement by the Program II Committee, the program becomes an obligation assumed by the student. Until formally accepted into Program II, a student should register for courses to satisfy the curricular requirements for Program I. Students who withdraw from Program II for any reason assume all requirements of Program I. Students will be accepted into Program II only after their first semester at Duke; they are ineligible for admission after the midpoint of their junior year. Further information may be obtained from the Academic Advising Center and from the office of the academic dean responsible for Program II.

General Requirements. Apart from the requirements arising from the approved plan of work, a Program II student must satisfy certain general requirements to satisfy the requirements for the degree: thirty-four semester-course credits for graduation; curricular breadth; the regulations on military science, house, professional school, and physical activity and dance courses; and residence, although the regulation relating to the last eight courses may be adjusted to suit the student's approved plan of work. Graduation with distinction is available for qualified students in Program II. See the section on honors on page 57.
COMBINATION PROGRAMS OF TRINITY COLLEGE AND DUKE PROFESSIONAL SCHOOLS

A student interested in attending a Duke professional school (environment or law) may, upon meeting certain requirements, combine the senior year in Trinity College of Arts and Sciences with the first year in the professional school. To qualify the student must (1) successfully complete twenty-six semester courses in Trinity College; (2) fulfill all degree requirements in Trinity College except for eight elective courses; (3) obtain the approval of the appropriate preprofessional advisor and academic dean in Trinity College; and (4) be admitted to the professional school. If the student's application to the professional school is accepted, the student takes a leave of absence from Trinity College in order to transfer to the professional school for the fourth year and begins work on the professional degree. Upon successful completion of the work in the first year of the professional school, the baccalaureate degree is awarded to the student. The undergraduate record notes the student's enrollment in the combination program, the name of the professional school, the date of graduation from Trinity College, and the degree awarded, but it does not include courses taken in the professional school. Counseling and additional information are available from the preprofessional advisors in Trinity College: Dean Donna Kostyu (environment) and Dean Gerald Wilson (law).

PREPARATION FOR GRADUATE AND PROFESSIONAL SCHOOLS

Students planning to enter a graduate or professional school should consult published information from the relevant advising offices for general information and guidance (i.e., Prelaw Advising Office at http://trinity.duke.edu/prelaw-advising, Prebusiness Advising Office at http://trinity.duke.edu/prebusiness-advising, Pregraduate Advising Office at www.trinity.duke.edu/pregraduate-advising, Health Professions Advising Office at http://trinity.duke.edu/prehealth-advising). For specific information regarding courses and curriculum choices, students should seek input from their faculty advisors and pregraduate and preprofessional advisors where appropriate. Information specific to particular graduate and professional schools can be obtained from the Web site of each school. Graduate and professional schools require special tests for students seeking admission. Information on the tests can be obtained from the appropriate preprofessional school or pregraduate school advisor in Trinity College of Arts and Sciences.

Graduate Schools of Arts and Sciences. Students interested in obtaining a master of science, master of arts, or doctor of philosophy degree should discuss their plans as early as possible with faculty in the proposed field of advanced study and refer to the pregraduate advisor’s Web site. As undergraduates, they should become involved in research which may involve laboratory work, advanced seminars, or independent study. Many graduate schools require a reading knowledge of a foreign language. Information on this and other requirements is available in the bulletins of specific graduate programs and Web sites. It may also be included in the "Handbook for Majors" for the major department. A research mentor, a faculty advisor, and the PhD advisor in the major department are the best resources for advice about graduate school in the arts and sciences. General advice may be sought from the advisor for pregraduate study, 011 Allen Building.

Graduate Schools of Engineering. Students interested in graduate work in engineering should consult the associate dean of the Pratt School of Engineering or the director of graduate studies in one of the engineering departments. Most engineering graduate schools require that a candidate have the equivalent of a Bachelor of Science in Engineering degree; however, students in the natural and social sciences may obtain conditional admission if they have a sufficient background in mathematics.

Graduate Schools of Business. Students seeking information about graduate schools of business should consult the advisor in Trinity College. In preparing for graduate business school, students should gain a good liberal arts background, choosing courses that will help them develop communication skills, analytical skills, and an understanding of human nature. Students have often chosen such courses as Computer Science 1, Economics 51 or 55, Economics 182, and Mathematics 31 as those which develop analytical skills. Students should seek to develop their leadership skills through participation in classroom projects and by becoming active in any student organization of their choice. For further information visit the Prebusiness Advising Office, Academic Advising Center, East Campus.
Medical and Dental Schools. Students planning to enter schools of medicine and dentistry can prepare for admission by completing any of the regular departmental majors in Program I or by completing Program II, and by taking those courses required by the professional schools of their choice. Virtually all medical schools and most schools of dentistry require the same basic group of college premedical courses— a year of biology with lab, a year each of inorganic and organic chemistry with lab, and a year of general physics with lab. In addition, many schools require a year of English and courses in the humanities or social sciences. About a fifth of all medical schools require a year of college mathematics and some specify calculus, statistics, or computer science. Most schools are recommending or requiring a course in biochemistry. For a complete listing of these and any additional course requirements set by each school, consult Medical School Admission Requirements, published by the Association of American Medical Colleges or Official Guide to Dental Schools, published by the American Dental Education Association. These and similar resources for schools of optometry and veterinary medicine are located in the Health Professions Advising Office. Students should discuss their programs of study with their major advisors, academic deans, and with an advisor for the health professions. Visit the Office of Health Professions Advising, 011 Allen Building.

Graduate Programs in the Health Professions. Students interested in careers as physical therapists, health administrators, or others of the allied health professions should prepare with course work in the natural sciences and behavioral sciences within a liberal arts curriculum. Up-to-date information on allied health professions and programs is best accessed through the Internet. A health professions advisor is available to meet with students interested in allied health professions. Visit the Office of Health Professions Advising, 011 Allen Building.

Law Schools. Students who plan to prepare for law school and a career in law should seek breadth in their undergraduate course program with specialization in one or more areas. They may choose virtually any field for their major work. Though no specific courses are required, prelaw students have often chosen from among the following: Economics 101, 174; History 377D, 366, 367; Philosophy 48; Political Science 116, 217, 215, 216; Public Policy Studies 155D; Sociology 110.

For a fuller discussion of undergraduate preparation for the study of law, students should refer to the Duke Prelaw Handbook or the Prelaw Handbook published by the Association of American Law Schools and the Law School Admission Council. For more information visit the Prelaw Advising Office, 04 Allen Building.

Theological Study and Professional Religious Work. Students interested in studying theology are encouraged to enroll in a Duke Divinity School course to explore topics of interest and talk with faculty members and other administrative staff about possibilities for further study. Theological schools often affiliate with a particular denomination and/or specialize in areas of study and practice. If students have a denominational (or other tradition) affiliation, they may wish to confer with representatives prepared to answer questions about theological study and qualifications for professional opportunities.

Preparation for graduate theological study often prioritizes a strong background in the humanities with broad knowledge in the areas of: biblical and modern languages; religion, both in the Judeo-Christian and in the Near and Far Eastern traditions; English language and literature; history, including non-Western cultures as well as European and American; and philosophy, particularly its history and its methods. However, students from other fields (such as the natural sciences, both the physical and the life sciences; psychology, sociology, and anthropology; and the fine arts and music) also thrive within theological studies, if they have strong writing skills. Most theological schools do not require languages for admission at the master degree level; however, doctoral programs in theological fields ordinarily require proficiency in two modern languages such as German and French prior to completing the program. Additionally, doctoral programs in biblical studies ordinarily require biblical language skill in Greek and Hebrew as a prerequisite for admission.

While theological degrees have most often been sought by persons desiring training for ordained ministry or other professional religious roles, theological degrees are also pursued by persons in other disciplines such as medicine, nursing, law, business, public policy, environmental studies, and social work to complement their studies and training.

More detailed information about theological study may be obtained from the director of admissions of Duke University Divinity School by calling (919) 660-3436 or toll-free (888) GO-2-DUKE, or e-mailing admissions@div.duke.edu.
The Edmund T. Pratt Jr. School of Engineering

Duke University offers in the Edmund T. Pratt Jr. School of Engineering programs of study which lead to the degree of Bachelor of Science in Engineering. Four programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone (410) 347-7700. These programs are biomedical engineering, civil engineering, electrical and computer engineering, and mechanical engineering. These accredited programs, and special programs of study in interdisciplinary fields, are offered by the Departments of Biomedical Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, and Mechanical Engineering and Materials Science.

For graduation with a Bachelor of Science in Engineering degree, a student must complete successfully a minimum of thirty-four semester courses. These thirty-four semester courses must include the following:

**General Requirements¹**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing</td>
<td>1 s.c.</td>
<td>This requirement is met by completing Writing 101.</td>
</tr>
<tr>
<td>Mathematics</td>
<td>5 s.c.</td>
<td>This requirement is typically met by completing Mathematics 111L, 112L, 212, 216, and 353.²</td>
</tr>
<tr>
<td>Natural Science</td>
<td>4 s.c.</td>
<td>This requirement is met by completing Chemistry 111L, Physics 151L and 152L, and an additional course in one of the natural science departments which presents fundamental knowledge about nature and its phenomena, preferably including quantitative expression.³</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>5 s.c.</td>
<td>This requirement is met by completion of five courses selected from at least three of the following four areas of knowledge: Arts, Literatures, and Performance (ALP), Civilizations (CZ), Foreign Languages (FL), and Social Sciences (SS). At least one course must be classified SS. In order to provide depth in a subject matter, at least two courses must be selected from a single department and at least one of those courses must be 200-level or above. Courses selected must be those which present essential subject matter and substance of the discipline. No skill courses can be used to fulfill this requirement.⁴</td>
</tr>
<tr>
<td>Engineering and Applied Sciences</td>
<td>4 s.c.</td>
<td>This requirement is met by completion of one course from four of the following seven areas: digital systems, electrical science, information and computer science, mechanics (solid and fluid), materials science, systems analysis, and thermal science and transfer processes. See departmental requirements, which follow, for any specific courses to be included.</td>
</tr>
<tr>
<td>Digital Computation</td>
<td>1 s.c.</td>
<td>Students are expected to have acquired digital-computer programming capability before their sophomore year. The programming capability may be satisfied by passing Engineering 103L.</td>
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</tbody>
</table>

¹ No more than 1 credit in physical education activity and 1 credit in music activity can be used to meet Bachelor of Science in Engineering degree requirements. House courses may not be used to meet BSE requirements.

² Students placing out of any of these classes must take a suitable substitute. AP credit can be used as a substitute for Math 111L and Math 112L.

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The Edmund T. Pratt Jr. School of Engineering 31
The first year of study in the Pratt School of Engineering is largely common to all engineers, with seven of the eight first year courses being completely transferable between the four accredited engineering majors. The first year curriculum offers:

- a general education in the fundamentals of mathematics, physics and chemistry, on which the science and practice of engineering are based;
- instruction in modern engineering problem solving skills, including the use of digital technology for both computational and laboratory applications;
- an exposure to the range of career opportunities in engineering; and
- the opportunity to explore intellectual opportunities in Trinity College, through satisfaction of the University writing requirement and selection of a humanities and social sciences elective.

Students predisposed toward a particular Pratt major use the eighth course to begin fulfilling degree requirements for that major as indicated below, while undecided students are encouraged to use this eighth course to aid in their subsequent selection of a major. The first-year colloquium in which both disciplinary and multi-disciplinary opportunities in engineering are explored, is also recommended to first year students to aid in this process of intellectual discovery. The general layout for the curriculum is as follows:

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 111L</td>
<td>1</td>
<td>Mathematics 112L</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry 101DL</td>
<td>1</td>
<td>Physics 151L</td>
<td>1</td>
</tr>
<tr>
<td>Writing 101 or</td>
<td>1</td>
<td>Writing 100 or</td>
<td>1</td>
</tr>
<tr>
<td>Humanities/Social</td>
<td></td>
<td>Humanities/Social</td>
<td></td>
</tr>
<tr>
<td>Science Elective</td>
<td></td>
<td>Science Elective</td>
<td></td>
</tr>
</tbody>
</table>
The above assumes no advanced placement credit. In the event that such credit is granted for one or more of the above courses, substitutions of upper level technical requirements can be made or other curricular interest may be pursued (including freshman Focus programs, or initiation of a Trinity second major/minor or certificate program).

The first year technical course should be selected according to the student’s intended major:

<table>
<thead>
<tr>
<th>Intended Major</th>
<th>Suggested Technical Course</th>
</tr>
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<tbody>
<tr>
<td>Biomedical Engineering</td>
<td>Biology 201L</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>CEE 106L (Fall) or EGR 120L (Spring)</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>Electrical and Computer Engineering 110L</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>Engineering 121L (^1)</td>
</tr>
<tr>
<td>Undecided</td>
<td>Select from all above</td>
</tr>
</tbody>
</table>

\(^1\) Engineering 20 is required for Mechanical Engineering majors.

After the first year, recommended curricula become more department specific, and are outlined on the following pages for the sophomore through senior years.

**Biomedical Engineering Departmental Requirements**

All general requirements and departmental requirements comprising the accredited Biomedical Engineering major are incorporated in the following sequence, only one of several possible sequences. To encourage depth in a specific area of Biomedical Engineering, students select two Areas of Biomedical Interest in the Junior year. There are four Areas of Biomedical Interest: (1) Biomaterials and Biomechanics (BB), (2) Imaging and Measurement Systems (IM), (3) Molecular, Cellular and Tissue Engineering (MC), and (4) Electrobiology (EL). Students must take one required class in each of their two selected Areas followed by two electives in one of the selected Areas. All BME elective courses have one or more of Area of Interest designations (BB, IM, MC, EL) or a General (GE) designation. Any BME Class with a GE designation may be used to fulfill the two Biomedical Engineering General Electives. Students are encouraged to consult with their advisors when selecting Areas of Biomedical Interest and electives.

**Sophomore Year**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical Engineering 244L</td>
<td>1</td>
<td>Electrical and Computer Engineering 110L</td>
<td>1</td>
</tr>
<tr>
<td>Engineering 201L</td>
<td>1</td>
<td>Chemistry 210DL or Chemistry 201DL</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 212</td>
<td>1</td>
<td>Mathematics 216</td>
<td>1</td>
</tr>
<tr>
<td>Physics 152L</td>
<td>1</td>
<td>Life Science Elective</td>
<td>1</td>
</tr>
<tr>
<td>Social Science or Humanities Elective</td>
<td>1</td>
<td>Social Science or Humanities Elective</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>Total</td>
<td>5</td>
</tr>
</tbody>
</table>

**Junior Year**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical Engineering 260L</td>
<td>1</td>
<td>Biomedical Engineering Area Core Class (^1)</td>
<td>1</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 280L or Biomedical Engineering 271</td>
<td>1</td>
<td>Biomedical Engineering Area Core Class (^1)</td>
<td>1</td>
</tr>
<tr>
<td>Mechanical Engineering 221L</td>
<td>1</td>
<td>Biomedical Engineering 354L</td>
<td>1</td>
</tr>
</tbody>
</table>
Students intending to study abroad should plan to travel in the Fall semester of their Junior year. Pre-med students should consult with their advisor about course planning. These students will need to take Chemistry 201L and 202L, Biology 201L, and a second life science elective by the end of the junior year. This is done by rearranging courses. Options for dual majors in Electrical and Computer Engineering, Civil Engineering, and Mechanical Engineering as well as elective concentrations are available on the department Web site: www.bme.duke.edu.

Civil and Environmental Engineering Departmental Requirements

All general requirements and departmental requirements comprising the accredited civil engineering major are incorporated in the following program that calls for a concentration in one of two areas, either structural engineering and mechanics (S/M) or environmental engineering and water resources (E/W). Either concentration satisfies all of the requirements. Because of the number of electives in the program, it is possible to complete both concentrations. The following table is presented as a guide to completing the program; other alternatives for course sequencing exist.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 353</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>

**Senior Year**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical Engineering Design</td>
<td>1</td>
<td>Biomedical Engineering Area Elective II</td>
<td>1</td>
</tr>
<tr>
<td>Biomedical Engineering Area Elective I</td>
<td>1</td>
<td>Biomedical Engineering General Elective</td>
<td>1</td>
</tr>
<tr>
<td>Biomedical Engineering General Elective</td>
<td>1</td>
<td>Social Science or Humanities Elective</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>1</td>
<td>Elective</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>

1 Select from the following: Biomedical Engineering 201L, 202L, 207, 233.
2 Select from the following: Biomedical Engineering 227L, 236L, 260L, 261L, 262L, 264L.
3 Both Area electives (I and II) must be from the same Area as described in the text above.

Students intending to study abroad should plan to travel in the Fall semester of their Junior year. Pre-med students should consult with their advisor about course planning. These students will need to take Chemistry 201L and 202L, Biology 201L, and a second life science elective by the end of the junior year. This is done by rearranging courses. Options for dual majors in Electrical and Computer Engineering, Civil Engineering, and Mechanical Engineering as well as elective concentrations are available on the department Web site: www.bme.duke.edu.

Civil and Environmental Engineering Departmental Requirements

All general requirements and departmental requirements comprising the accredited civil engineering major are incorporated in the following program that calls for a concentration in one of two areas, either structural engineering and mechanics (S/M) or environmental engineering and water resources (E/W). Either concentration satisfies all of the requirements. Because of the number of electives in the program, it is possible to complete both concentrations. The following table is presented as a guide to completing the program; other alternatives for course sequencing exist.

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 212</td>
<td>1</td>
<td>Mathematics 216</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Physics 152L</td>
<td>1</td>
<td>Civil and Environmental Engineering 201L</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Engineering 201L</td>
<td>1</td>
<td>Engineering 244L</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Civil and Environmental Engineering 160L or Elective</td>
<td>1</td>
<td>Elective</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Civil and Environmental Engineering 205S</td>
<td>.5</td>
<td>Engineering 206</td>
<td>.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.5</td>
<td>Total</td>
<td>4.5</td>
<td></td>
</tr>
</tbody>
</table>

**Junior Year**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 353</td>
<td>1</td>
<td>Statistics 130</td>
<td>1</td>
</tr>
<tr>
<td>Engineering 305</td>
<td>1</td>
<td>Elective</td>
<td>1</td>
</tr>
<tr>
<td>Civil and Environmental Engineering 301L</td>
<td>1</td>
<td>Civil and Environmental Engineering 302L</td>
<td>1</td>
</tr>
<tr>
<td>Civil and Environmental Engineering Course</td>
<td>1</td>
<td>Civil and Environmental Engineering Course</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>Total</td>
<td>5</td>
</tr>
</tbody>
</table>
The regular program of electives should include at least one from: Biomedical Engineering 253L, Civil and Environmental Engineering 307, 560, 581, Computer Science 201, Electrical and Computer Engineering 110L, 311, Engineering 224L, Mechanical Engineering and Material Science 221L, 331L, or Physics 271L (students completing the S/M concentration may take Civil and Environmental Engineering 461L, 463L, or 462L; students completing the E/W concentration may take Civil and Environmental Engineering 421L, 422L, or 423L); at least five semester courses in humanities and social sciences; at least one course in the natural sciences; and in addition to specified civil and environmental engineering courses, at least one civil engineering elective course at the 300 level or higher. Allowable natural science courses are Biology 201L, Earth and Ocean Sciences 101, Earth and Ocean Sciences 102. Students planning to attend graduate school are strongly advised to take at least one additional civil engineering elective (making two total), with one of these at the 500 level or higher.

Electrical and Computer Engineering Departmental Requirements

The general Pratt School of Engineering requirements and Electrical and Computer Engineering departmental requirements comprising the accredited electrical and computer engineering major are incorporated in the following program. This program is presented as a guide to assist students in planning their four-year program and should not be viewed as an inflexible sequencing of courses.

Senior Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil and Environmental Engineering Course 1</td>
<td>1</td>
<td>Civil and Environmental Engineering 429 or 469*</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>1</td>
<td>Elective</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>1</td>
<td>Elective</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>1</td>
<td>Elective</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>

1 Students selecting the S/M concentration should take the following CEE courses: Junior Year: Fall Semester - CEE 421L, Spring Semester - CEE 422L; Senior Year: Fall Semester - CEE 423L. Students selecting the E/W concentration should take the following CE courses: Junior Year: Fall Semester - CEE 461L; Spring Semester - CEE 462L; Senior Year: Fall Semester - CEE 463L.

2 The S/M concentration culminates in CEE 429 (Integrated Structural Design), while the E/W concentration culminates in CEE 469 (Integrated Environmental Design).

Electrical and Computer Engineering Departmental Requirements

The general Pratt School of Engineering requirements and Electrical and Computer Engineering departmental requirements comprising the accredited electrical and computer engineering major are incorporated in the following program. This program is presented as a guide to assist students in planning their four-year program and should not be viewed as an inflexible sequencing of courses.

Sophomore Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Courses</th>
<th>Spring Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICS 152L</td>
<td>1</td>
<td>ECE 250L</td>
<td>1</td>
</tr>
<tr>
<td>MATH 212</td>
<td>1</td>
<td>ECE 230L</td>
<td>1</td>
</tr>
<tr>
<td>ECE 280L</td>
<td>1</td>
<td>Biology 201L, 202L, or 311</td>
<td>1</td>
</tr>
<tr>
<td>COMPSCI 201</td>
<td>1</td>
<td>MATH 216</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>1</td>
<td>SS-H 2</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
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<td>Total</td>
<td>5</td>
</tr>
</tbody>
</table>

Junior Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Courses</th>
<th>Spring Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE Concentration Elective 1</td>
<td>1</td>
<td>ECE Elective</td>
<td>1</td>
</tr>
<tr>
<td>ECE 270L</td>
<td>1</td>
<td>STA 113 or Math 230 or ECE 555</td>
<td>1</td>
</tr>
<tr>
<td>MATH 353</td>
<td>1</td>
<td>ECE Concentration Elective 2</td>
<td>1</td>
</tr>
<tr>
<td>SS-H 3</td>
<td>1</td>
<td>SS-H 4</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>

Senior Year
Note for electrical and computer engineering majors: the selection of approved electives should take into account a departmental requirement that a student must have accumulated by graduation time 12 electrical and computer engineering courses, including an engineering design elective to be taken in the senior year of the program. This course must have as a prerequisite at least one course in the discipline; currently, Electrical and Computer Engineering 449, 459, 559, and 539 are approved as ECE Design Electives.

Mechanical Engineering and Materials Science Departmental Requirements

The general requirements and departmental requirements comprising the accredited mechanical engineering major are all incorporated in the following program. 

### Sophomore Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering 201LL</td>
<td>1</td>
<td>Engineering 244L</td>
<td>1</td>
</tr>
<tr>
<td>Physics 152L</td>
<td>1</td>
<td>Elective 1</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 212</td>
<td>1</td>
<td>Mathematics 216</td>
<td>1</td>
</tr>
<tr>
<td>Elective 1</td>
<td>1</td>
<td>Engineering 224L</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>

### Junior Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering 344L</td>
<td>1</td>
<td>Engineering 221L or Elective 1</td>
<td>1</td>
</tr>
<tr>
<td>Mechanical Engineering 321L</td>
<td>1</td>
<td>Mechanical Engineering 336L</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 353</td>
<td>1</td>
<td>Natural Science Elective 2</td>
<td>1</td>
</tr>
<tr>
<td>Elective 1 or Mechanical Engineering 221L</td>
<td>1</td>
<td>Mechanical Engineering 321 or 344L</td>
<td>1</td>
</tr>
<tr>
<td>Elective 1</td>
<td>1</td>
<td>Elective 1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>Total</td>
<td>5</td>
</tr>
</tbody>
</table>

### Senior Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Courses</th>
<th>Second Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering 421L</td>
<td>1</td>
<td>Mechanical Engineering 424L</td>
<td>1</td>
</tr>
<tr>
<td>Mechanical Engineering 431L</td>
<td>1</td>
<td>Mechanical Engineering Elective 3</td>
<td>1</td>
</tr>
<tr>
<td>Mechanical Engineering Elective 3</td>
<td>1</td>
<td>Elective 1</td>
<td>1</td>
</tr>
<tr>
<td>Elective 1</td>
<td>1</td>
<td>Elective 1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>
Declaration of Major. A student is urged to declare a major before registration for the first semester of the sophomore year, but is required to do so by the time of registration for the first semester of the junior year. Declaration of major is accomplished by completing a form available in the Office of the Dean of Engineering.

Second Major. If an engineering student completes simultaneously the requirements for a departmental major in arts and sciences and the requirements for a Bachelor of Science in Engineering degree, or satisfies simultaneously the requirements for two engineering majors, the official record will indicate this fact. The Director of Undergraduate Study for each major must certify that all major requirements have been met. In Pratt, each major must identify at least nine technical courses fundamental to the discipline of that major that are different from those of the other major. Each major must have at least five of these technical courses fundamental to the discipline that are not used to satisfy the requirement of the other major (free electives excluded). Any of the other fundamental courses may be counted for both majors if the Directors of Undergraduate Study agree they have equivalent technical content. The remaining requirements for each major may be satisfied by taking additional courses associated with the approved academic unit, cross-listed courses, or upon agreement of the Directors of Undergraduate Study, other courses with approved content.

The student must initiate the procedure, either through the associate dean of the Pratt School of Engineering or through the Director of Undergraduate Studies in the second department. The completion of the requirements for the major in this department must be confirmed no later than the time of registration for the final semester.

IDEAS. These interdisciplinary programs in engineering and applied science, leading to the Bachelor of Science in Engineering degree, provide opportunities for students to establish special majors in interdisciplinary fields such as computer engineering, environmental engineering, and materials science. Programs with a broad foundation in the engineering sciences also may be developed under this program by those who intend to enter nonengineering professions. Although not individually accredited, these programs satisfy the national engineering accreditation criteria.

Any student, in consultation with the advisor or another faculty member, may propose a unique combination of courses designed to meet particular career objectives. A proposal must be submitted to the associate dean of the Pratt School of Engineering and the Engineering Faculty Council for approval; it may be submitted as early as the second semester of the freshman year and must be submitted before the beginning of the senior year. The proposal must include a letter stating the students reasons for pursuing the suggested program of study.

Certificate Program in Aerospace Engineering. The objective of this multi-disciplinary program is to educate students in the engineering principles related to the conceptualization, design, analysis, and performance of aerospace vehicles and systems. This certificate program is available only to students enrolled in the Pratt School of Engineering. Specific program requirements may be obtained from the Mechanical Engineering and Material Science Web site, from the Director of Undergraduate Studies of that department, or from the Office of the Dean of Engineering.

Certificate Program in Architectural Engineering. The objective of this interdisciplinary program is to provide students with an understanding of the relationships between the design elements of buildings and construction processes. This certificate program is available only to students enrolled in the Pratt School of

1 Part of a program of approved electives planned with the student’s faculty advisor to suit individual interests and abilities. Five of these nine electives must be selected to meet the humanities and social sciences requirements of the Pratt School of Engineering. Also, three of the nine electives must be 200 level or higher. ROTC courses cannot be counted toward the 200-level requirement.
2 Allowable natural science courses are Biology 201L and 202L, Chemistry, 210DL, Earth and Ocean Sciences 101L and 102, Physics 188 and 305; or higher level courses with the consent of the director of undergraduate studies.
3 Restricted to 300-level or higher.
Engineering. Specific program requirements may be obtained from the Civil and Environmental Engineering Web site, from the Director of Undergraduate Studies of that department, or from the office of the dean of engineering.

**Certificate Program in Energy and the Environment.** The objective of this multi-disciplinary program is to provide students with an understanding of the breadth of the issues that confront our society in its need for clean, affordable, and reliable energy. Administered jointly by the Pratt School of Engineering and the Nicholas School of the Environment, the certificate provides students with an understanding of the three key disciplines in the study of energy and the environment: markets and policy, environmental impacts, and energy resources and technology. The certificate program culminates in a multidisciplinary capstone project course, teaming engineers with non-engineers to tackle real world energy problems. Specific program requirements may be obtained from the director of undergraduate studies in Environmental Sciences and Policy, the director of undergraduate studies in Mechanical Engineering and Materials Science, the director of undergraduate studies in Civil and Environmental Engineering, or from the Undergraduate Programs Office for the Nicholas School.

**International Honors Program.** The International Honors Program is a certificate program consisting of six to eight semester courses, depending on the foreign language level proficiency of the student. All of the IHP course requirements may, with sufficiently advanced planning, fulfill humanities and social sciences or approved elective requirements which are encompassed in the schools accredited engineering programs. Early planning and advising are essential to fulfilling all IHP requirements as part of the baccalaureate degree program. Specific program requirements and an application may be obtained in the office of the dean of engineering.

**Bachelor of Science in Engineering/Master of Science Program.** This program provides students with an opportunity to plan a coordinated five-year program of studies in the Pratt School of Engineering leading to both the Bachelor of Science in Engineering and Master of Science degrees. Application for admission to this integrated program may be made during the senior year. Provisional admission to the Graduate School may be granted when the student enrolls for the semester during which the Bachelor of Science in Engineering degree requirements will be completed. Graduate level courses during this period which are in excess of Bachelor of Science in Engineering requirements may be credited toward fulfillment of the Master of Science degree requirements.

**Bachelor of Science in Engineering/Master of Engineering Program.** This 4+1 program provides students with an opportunity to plan a coordinated five-year program of studies in the Pratt School of Engineering leading to both the Bachelor of Science in Engineering and Master of Engineering degrees. Application for admission to this program may be made as early as the spring of the junior year or as late as the spring of the senior year. Although admitted to the Master of Engineering program while undergraduates, 4+1 students will remain in undergraduate status for four years and will become a Master of Engineering student in the fifth year. Graduate level credits, where a grade of “B” or better was earned and which are in excess of the Bachelor of Science in Engineering requirements, may be transferred toward fulfillment of the Master of Engineering degree requirements.

**Master of Engineering Management.** This program offers engineering students exposure to both business and law as well as advanced engineering. Open to students after completion of the accredited bachelor's degree in engineering, it requires completion of an engineering internship, four graduate level engineering courses, three business courses, and one law course. Specific program requirements and application forms may be obtained from the Master of Engineering Management program office in The Wilkinson Center for Engineering Management, 3120 Fitzpatrick Center (CIEMAS).

**Residence Requirements.** At least seventeen semester courses must be completed satisfactorily at Duke. This must include the work of the final two semesters, with the following exceptions: the student who has completed more than four full semesters of work at Duke may take the last two courses elsewhere; others may
take the last course elsewhere. The courses taken elsewhere must be approved in advance by the student’s major advisor and academic dean.

**Satisfactory/Unsatisfactory Grading Option.** With the consent of the instructor and the faculty advisor, an engineering student may choose to be graded on a satisfactory/unsatisfactory basis in up to four unrestricted electives within the thirty-four-course program. A student may take no more than one course on a satisfactory/unsatisfactory basis each semester.

**Repetition of Courses.** An engineering student who has earned a grade of \(D-, \ D, \ \text{or} \ D^+\) in a required mathematics, science, or a required engineering course may, with permission of his or her advisor, director of undergraduate studies, and academic dean, repeat the course. Both grades will remain on the student’s record. Only one credit may be counted toward satisfying continuation requirements and toward fulfilling graduation requirements.

**Continuation Requirements.** A student must achieve a satisfactory record of academic performance each semester and make satisfactory progress toward graduation to remain enrolled in the university. A student must pass at least three courses in each semester, except for the first semester of the freshman year, in which at least two courses must be passed.

A student who fails to meet this continuation requirement must leave the university for at least two semesters. A complete summer session may be counted as a semester. Following application for readmission, return must be approved by the dean and the director of undergraduate studies in the student’s major department. If, after readmission, the student fails again to meet minimum requirements, the student will be ineligible, except in extraordinary instances and after a minimum of five years, for readmission to the school. A student who enrolls in more than four courses in a given semester and fails two or more of them will not be permitted to enroll for more than four courses in the following semester without approval of the dean. In addition, a student may be dismissed for failing to make satisfactory progress toward graduation, including satisfactory progress toward fulfillment of curricular requirements within ten semesters. The term satisfactory progress shall be defined also by the following schedule:

1. To begin enrollment in the second year, a student must have passed 6 s.c. at Duke and earned \(S, \ C-\), or better in 4 s.c.
2. To begin enrollment in the third year, a student must have passed 13 s.c. at Duke and earned \(S, \ C-\), or better in 11 s.c.
3. To begin enrollment in the fourth year, a student must have passed 20 s.c. at Duke and earned \(S, \ C-\), or better in 18 s.c.
4. To begin enrollment in the fifth year, a student must have passed 27 s.c. at Duke and earned \(S, \ C-\), or better in 25 s.c.

*In the Summer Session:* to maintain enrollment at Duke a student may not fail more than one full course during that summer. For purposes of continuation, incomplete work is considered failure to achieve a satisfactory performance in that course. Therefore, when eligibility to continue from the summer session to the fall is in question, incomplete courses must be satisfactorily completed in time for a passing grade to be submitted to the Office of the University Registrar no later than the weekday preceding the first day of fall classes.

**Grade Requirement for Graduation.** Of the thirty-four semester courses which fulfill the specified categories in the Bachelor of Science in Engineering degree requirements, thirty-two or their equivalent in number must be passed with grades of \(S, \ C-\), or better.
Academic Procedures and Information
**Entrance Credit and Placement**

Scores on the tests discussed below and documented previous educational experience are the criteria used to determine a student's qualifications for certain advanced courses. In addition, a limited amount of elective course credit may be awarded in Trinity College on the basis of pre-college examination and/or credits earned of the following three types: advanced placement (AP), international placement credit (IPC), and pre-matriculation college credit. Trinity College will record on students’ permanent Duke record courses of these three types completed prior to their matriculation at Duke. The three types of pre-college work are regarded as equivalent and may be used for placement into higher-level course work and to satisfy departmental major and minor requirements at Duke to the extent allowed by the individual departments. Additionally, Trinity College students may be granted up to two elective course credits towards the degree requirement of 34 course credits for any combination of AP, IPC, or pre-matriculation credit. Up to six additional credits may be awarded for acceleration toward the degree. Acceleration is defined as completing the requirements for the bachelor’s degree one or two semesters earlier than the original expected graduation date. Specifically, the two elective as well as up to two acceleration credits may be included in the graduation total for students graduating in seven consecutive semesters. The two elective credits, as well as up to six acceleration credits, may be included in the graduation total for students graduating in six consecutive semesters. Students may not use acceleration credits in order to compensate for time taken away from their studies due to a leave of absence, voluntary or involuntary withdrawal from the university or a period of practice-oriented education that does not include credit-bearing course work taken to satisfy graduation requirements. Students wishing to graduate early must complete an early graduation form, available from their academic dean, by the end of the fifth semester of enrollment. AP, IPC, and pre-matriculation credits may not be used to satisfy general education requirements—the Areas of Knowledge or the Modes of Inquiry.

The Pratt School of Engineering evaluates AP and IPC credit as Trinity College does, but awards transfer credit to qualified students for college-level course work completed prior to matriculation with a grade of at least B-. These courses may be used to satisfy distribution requirements toward the B.S.E degree. The criteria for evaluating such work are the same as in Trinity College (see the section on work taken during high school). Enrollment in a course for which AP or IPC credit has been given will cause the AP credit to be forfeited.

**College Board Advanced Placement Program (AP) Examinations.** A score of 4 or 5 on College Board Advanced Placement Program Examinations, taken prior to matriculation in college, is the basis for consideration of placement in advanced courses in art, art history, studio art, biology, chemistry, Chinese, computer science, economics, English, environmental science, French, German, history, Japanese, Latin, mathematics, music, physics, political science, psychology, Spanish, and statistics. The Department of Mathematics will also consider a score of 3 for placement beyond the introductory course. The record of a student presenting such a score and desiring to continue in the same subject at Duke will be evaluated for placement in an advanced course. Departmental policies regarding advanced placement may vary. AP scores
of 4 or 5 in German, Japanese, Latin, French literature, and Spanish literature may result in placement in courses at the 200-400 level; an AP score of 5 in French or Spanish language may result in placement in courses at the 200-400 level. Approval of the director of undergraduate studies or supervisor of first-year instruction in the appropriate department is required before final placement is made. Scores should be submitted directly from the appropriate testing service to the Office of the University Registrar. The expectation is that they will be sent prior to matriculation or at least by the end of the first year. See the following information concerning policies in the Department of Physics:

**Advanced Placement in Physics.** Neither credit nor advanced placement is given for a score below 5 on the Advanced Placement (AP) Physics-B exam. Trinity College students with a score of 5 on the AP Physics-B exam may be placed out of Physics 141L with consultation and approval of the Physics Director of Undergraduate Studies, although no credit will be granted for these courses. This option is not available to students in the Pratt School of Engineering.

Entering students with a score of 4 or 5 on the AP Physics-C Mechanics exam will receive credit for Physics 141L; students with a score of 4 or 5 on the AP Physics-C Electricity and Magnetism exam will receive credit for Physics 142L. This policy applies to students entering either the Pratt School of Engineering or Trinity College.

For more details about AP course credits and international AP course credits in physics, see [www.phy.duke.edu/undergraduate/elsewhere.php](http://www.phy.duke.edu/undergraduate/elsewhere.php).

AP courses completed with a score of 4 or 5 will be recorded on a student's permanent Duke record. Students may use all of these courses for placement into higher level courses and to satisfy departmental major and minor requirements at Duke to the extent allowed by individual departments. Enrollment in a course for which AP or IPC credit has been given will cause the AP or IPC credit to be forfeited. In the Pratt School of Engineering, AP or IPC courses count toward the general requirements and the student is required to take one physics course here at Duke. If awarded AP, IPC, or PMC credit for Physics 141L and 142L, the student must take one of the following physics here at Duke: Physics 153L, 264, 361, or 362. In Trinity College, AP courses do not count toward the general education requirements, i.e., the Areas of Knowledge or the Modes of Inquiry.

**International Placement Credit (IPC).** Duke University recognizes the International Baccalaureate Program; the French Baccalaureate; the British, Hong Kong, or Singapore A-Level Examinations; the Cambridge pre-U; the Caribbean Advance Proficiency Examination; the German Abitur; the Swiss Federal Maturity Certificate; the All India Senior School Certificate Examination; the Indian School Certificate examination; and the Israeli Matriculation Certificate. Scores acceptable for consideration are determined by the faculty and evaluated by the university registrar. Course equivalents for these programs may be recorded on a student's permanent Duke record for placement and credit according to the same policy governing use of AP and pre-matriculation credits (see above). Similarly, these credits do not satisfy the general education requirements and, thus, may not be used for the Areas of Knowledge or the Modes of Inquiry; any combination of two IPC, AP, or pre-matriculation credits may be used toward the 34 required for graduation. Additional IPC, AP and pre-matriculation credits may be used to accelerate. In the Pratt School of Engineering, these courses may be used to satisfy distribution requirements toward the B.S.E degree.

**Pre-Matriculation Credit.** First-year Duke students may submit for evaluation college courses taken at another American college or university after commencement of the student’s junior year of high school. (For details concerning transferring this work, see the section on "Work Taken During High School" on page 44.) In Trinity College, pre-matriculation credits awarded for such work may be used as electives and, thus, may not be used to satisfy the general education requirements—the Areas of Knowledge or the Modes of Inquiry. Any combination of two pre-matriculation, IPC, or AP credits may be used toward the 34 required for graduation (credits do not have to be designated by the student). Additional IPC, AP and pre-matriculation credits may be used to accelerate if early graduation is intended. In the Pratt School of Engineering, these courses may be used to satisfy distribution requirements toward the B.S.E degree. No pre-matriculation credit will be awarded for college course work completed on a study abroad program undertaken prior to matriculation at Duke.
**College Board Tests.** Scores on College Board Tests are the basic criteria for placement in French, German, Spanish (101 and beyond), Latin, and mathematics. Course credit is not given for courses bypassed. The following tables will assist students in making reasonable course selections in the subjects indicated.

<table>
<thead>
<tr>
<th>Subject</th>
<th>College Board Achievement Score</th>
<th>Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>French¹,²</td>
<td>240-410</td>
<td>French 101³ or 111</td>
</tr>
<tr>
<td></td>
<td>420-480</td>
<td>French 102</td>
</tr>
<tr>
<td></td>
<td>490-580</td>
<td>French 212 or 203</td>
</tr>
<tr>
<td></td>
<td>590-630</td>
<td>French 204</td>
</tr>
<tr>
<td></td>
<td>640-plus</td>
<td>French 300-level course</td>
</tr>
<tr>
<td>German¹,⁴</td>
<td>200-410</td>
<td>German 101 or 111</td>
</tr>
<tr>
<td></td>
<td>420-480</td>
<td>German 102</td>
</tr>
<tr>
<td></td>
<td>490-580</td>
<td>German 203</td>
</tr>
<tr>
<td></td>
<td>590-620</td>
<td>German 204</td>
</tr>
<tr>
<td></td>
<td>630-650</td>
<td>German 305S</td>
</tr>
<tr>
<td></td>
<td>660-plus</td>
<td>German 306S and beyond</td>
</tr>
<tr>
<td>Spanish¹,⁵</td>
<td>below 200</td>
<td>Spanish 101³ or 111</td>
</tr>
<tr>
<td></td>
<td>200-370</td>
<td>Spanish 101³</td>
</tr>
<tr>
<td></td>
<td>380-450</td>
<td>Spanish 102</td>
</tr>
<tr>
<td></td>
<td>460-580</td>
<td>Spanish 212 or 203</td>
</tr>
<tr>
<td></td>
<td>590-650</td>
<td>Spanish 204</td>
</tr>
<tr>
<td></td>
<td>660-plus</td>
<td>Spanish 300-level course</td>
</tr>
<tr>
<td>Latin¹,⁶</td>
<td>200-520</td>
<td>Latin 101</td>
</tr>
<tr>
<td></td>
<td>530-630</td>
<td>Latin 203</td>
</tr>
<tr>
<td></td>
<td>640-690</td>
<td>Latin 204</td>
</tr>
<tr>
<td></td>
<td>700-plus</td>
<td>Latin 300-level course</td>
</tr>
<tr>
<td>Mathematics⁷</td>
<td>500-670</td>
<td>Mathematics 105L</td>
</tr>
<tr>
<td></td>
<td>680-800</td>
<td>Mathematics 111L</td>
</tr>
</tbody>
</table>

¹ In these languages students are permitted to drop back one level without loss of credit (e.g., from 300 to 204 or from 204 to 203, in French; from 305S to 204 or from 204 to 203 in German). No credit will be allowed for courses two levels below the achievement score (e.g., students with a score of 640 in French could not receive credit for 203, but could for 204). In no case will credit be given for French 101 or Spanish 101 to students who have completed more than two years of French or Spanish in high school.

² Students should also check the Self-Placement Guidelines for French at: [http://languages.duke.edu](http://languages.duke.edu).

³ The first semester of a language may not be taken for credit by a student who has completed more than two years of that language in secondary school. In rare cases, an exception may be granted with permission of the director of undergraduate studies in the appropriate department.

⁴ Students should also check the Self-Placement Guidelines for German at: [http://www.german.duke.edu/undergraduate/language-program/placement](http://www.german.duke.edu/undergraduate/language-program/placement).

⁵ Incoming students must take the SAT II before enrolling in a Spanish course.

⁶ Students should also check the self-placement guidelines at [www.duke.edu/web/classics/ugrads/latin-greek.html](http://www.duke.edu/web/classics/ugrads/latin-greek.html).

⁷ In the absence of an achievement test score, course placement is determined by the SAT score as follows: 670 or below—Math. 25L; 680-800—Math. 31L.

Newly admitted students who wish to continue the study of French, German, Spanish, or Latin begun in secondary school must take a College Board Achievement Test or College Board Advanced Placement (AP) Examination in that language by June of the senior year in secondary school. In Spanish or French, a score of
4 or 5 on the AP literature exam, or a score of 5 on the AP language exam qualifies students to enroll in a 200-400-level course. Students who plan to take mathematics at Duke are expected to present College Board Scholastic Achievement Tests (SAT), Mathematics Achievement (Level I or Level II), or Advanced Placement Program (AP, either level AB or level BC) scores. Placement testing in mathematics is not offered during New Student Orientation.

All students who plan to take mathematics during their first semester at Duke, and who do not submit the College Board SAT or Achievement Test or Advanced Placement Program score in mathematics, should refer to the placement guidelines on the web site of the Department of Mathematics, or consult with the supervisor of first-year instruction in mathematics during New Student Orientation. New students who have been placed in Mathematics 105L or 111L on the basis of College Board SAT, Achievement, or Advanced Placement Examinations but who believe that their background in mathematics justifies a higher placement, should also confer during New Student Orientation with the supervisor of first-year instruction or with the director of undergraduate studies in the Department of Mathematics.

Placement in Languages Other Than French, German, Spanish, and Latin. Students who wish to continue in any language other than French, German, Spanish, or Latin should consult with the appropriate director of undergraduate studies. In the case of Russian, Polish, and Turkish, the department offers a written examination and oral interview, which are used in conjunction with other criteria for placing students at the appropriate level. In the case of Asian and African languages as well, students should consult with the appropriate language coordinators.

Reading Out of Introductory Courses. Students demonstrating academic ability may be granted the option of reading out of an introductory or prerequisite course in order to allow them to advance at their own pace to upper-level work. No course credit may be earned by reading out. Reading for a course and auditing are mutually exclusive procedures. Students should consult with the appropriate directors of undergraduate studies who must approve the proposed program of reading. Students may be certified for advanced course work by passing a qualifying examination prepared by the department. When an advanced course is completed, an entry is made on the permanent record that the qualifying examination was passed, but no course credit is awarded.

Transfer of Work Taken Elsewhere

Work Taken During High School. College-level courses taken elsewhere prior to matriculation at Duke may be considered for pre-matriculation credit provided they meet each of the following criteria: were taken after the commencement of the junior year of high school and yielded a grade of B- or better, not used to meet high school diploma requirements, taken on the college campus, taken in competition with degree candidates of the college, taught by a regular member of the college faculty, part of the regular curriculum of the college, not taken on a study abroad program completed prior to matriculation at Duke, and not pre-calculus or English composition courses. Formal review of courses meeting these criteria will proceed after an official transcript of all college courses taken and documentation pertaining to these criteria are received by the University Registrar. (See also the section on entrance credit in this chapter for a discussion of the number of pre-matriculation credits that can transfer and how they may be used at Duke.)

Work Taken After Matriculation at Duke. After matriculation as a full-time candidate at Duke, a student in Trinity College may receive transfer credit for no more than two courses taken in the United States at another accredited four-year institution, whether in the summer, while withdrawn from the College, or while on leave of absence for personal, medical, or financial reasons. A student in the Pratt School of Engineering is limited to four of these types of transfer courses. In cases that involve transferring study abroad credit, a student in Trinity or Pratt may transfer up to eight credits for a full year, plus two for a summer. In no instance, however, may a student transfer more than ten courses when combining study abroad and the allowable number of domestic transfer courses. International students who take courses in their home country for transfer will be subject to the same policies and limitations governing domestic credit. No credit will be accepted for course work taken while a Duke student is withdrawn involuntarily.
Only those courses taken in which grades of C- or better have been earned are acceptable for transfer credit; courses taken at other institutions with P/F grading or the equivalent will not be accepted for transfer credit. The semester-course unit of credit awarded at Duke for satisfactorily completed courses cannot be directly equated with semester-hour or quarter-hour credits. Credit equivalency is determined by the university registrar. Courses for which there is no equivalent at Duke may be given a 100 or a 300 number, lower to upper level. All courses approved for transfer are listed on the student’s permanent record at Duke, but grades earned are not recorded. Once the limit of transferred credit has been reached, no additional transferred work will be displayed on the record or used as a substitute for a previously transferred course. Further information is available from the university registrar.

Courses taken in the United States that, upon evaluation, yield transfer credit at Duke may be given Areas of Knowledge but not Modes of Inquiry. (The same is true of courses taken abroad, with the exception of the FL Mode of Inquiry, for which students may apply upon completion of the course). They could count toward the major, minor, or certificate if approved by the relevant academic unit. For purposes of this regulation, interinstitutional credits (see the section on agreement with neighboring universities) are not considered as work taken at another institution.

At least half of the courses submitted toward fulfillment of a student’s major field must be taken at Duke, but departments may make exceptions to this rule in special circumstances. No credit is given for work completed by correspondence or online course instruction, and credit for not more than two semester courses is allowed for extension courses.

Approval forms for Duke students taking courses at institutions other than Duke may be obtained online or from the offices of the academic deans. Students wishing to transfer credit for study at another accredited college while on leave or during the summer must present a catalog of that college to the appropriate dean and director of undergraduate studies and obtain their approval prior to taking the courses. Students wishing to receive the FL Mode of Inquiry code for transfer course work taken in study abroad must apply for the FL code using the Transfer Course FL Mode of Inquiry Request Form available at: [http://trinity.duke.edu/academic-requirements](http://trinity.duke.edu/academic-requirements).

**Transfer Credit for Students Transferring to Duke.** Students transferring from a degree program in another accredited institution may be granted credit for up to 17 semester-course credits. Courses accepted for transfer in this circumstance may be given, upon evaluation, Area of Knowledge and Modes of Inquiry codes. They may count toward a major, minor, or certificate program if approved by the relevant academic unit. See the section above for information on the evaluation of courses for transfer and the limitation on transfer courses for the major.

**Transfer Credit and the Foreign Language Requirement.** The same rules that apply to the transferring of courses to meet other curriculum requirements apply to foreign language courses.

Foreign language courses taken elsewhere and approved for transfer as credit to Duke may be used for language placement. Students who request placement on the basis of non-Duke courses will be required to show their work (including books, syllabus, writing samples, exams) to the director of undergraduate studies in the department of that language, and/or to pass an in-house proficiency exam appropriate to the level.

**Advising**

Students are required to confer with their academic advisor at least once per semester before registration, but are encouraged to meet more regularly in order to discuss academic goals, plans for achieving them, and any problems encountered or anticipated. Students complete the major declaration process during their fourth semester of enrollment in consultation with their academic advisor. Upon declaring a major, the student is assigned a faculty advisor; the academic dean for that division is also available for consultation. In the Pratt School of Engineering, the advisor's approval is necessary for registration and all course changes. Much good advising is informal and occurs in conversation with members of the faculty. Students have the responsibility to understand and meet the requirements for the curriculum under which they are studying and should seek advice as appropriate.
Registration

Students are expected to register at specified times for each successive term. Prior to registration each student receives instructions via e-mail. Students prepare a course program via ACES, and discuss it at an appointed time with their advisor. In the Pratt School of Engineering, the schedule must be approved by the advisor.

Students who expect to obtain certification to teach in secondary and elementary schools should consult an advisor in the education program prior to each registration period to ensure that they are meeting requirements for state certification and that they will have places reserved for them in the student teaching program.

Those who register late are subject to a $50 late registration fee. In the case of students enrolled in Continuing Education, late fees are assessed after the first day of classes. Students who fail to register for the fall or spring semester are administratively withdrawn and must apply for readmission if they wish to return. Those students who have not paid any fees owed to or fines imposed by the university (such as laboratory fees, library fines, and parking fines) by the date specified for registration for the following term will not be permitted to register for the following term until such fees and fines have been paid in full, notwithstanding the fact that the student may have paid in full the tuition for the following term.

Students planning to register for a course under the interinstitutional agreement must have the course approved by the appropriate director of undergraduate studies and their academic dean. Further information about registration procedures may be obtained from the Office of the University Registrar, and at its Web site, www.registrar.duke.edu. See the chapter "Special Programs" for information regarding the reciprocal agreement with neighboring universities.

Duke Identification Card and Term Enrollment. Undergraduate students are issued an identification card (DukeCard) which they should carry at all times. The card is a means of identification for library privileges and provides access to many university facilities, functions, and services available to currently enrolled students. Students are expected to present their card on request to any university official or employee. The card is not transferable, and fraudulent use may result in loss of student privileges or suspension. Loss of the card should be reported immediately to the DukeCard Office at (919) 684-5800. A replacement fee will be charged for lost or stolen cards. Official enrollment is required for admission to any class.

Concurrent Enrollment. A student enrolled at Duke may not enroll concurrently in any other school or college. See, however, the statement regarding the reciprocal agreement with the University of North Carolina at Chapel Hill, North Carolina Central University in Durham, North Carolina State University at Raleigh, the University of North Carolina at Charlotte, and the University of North Carolina at Greensboro.

Course Changes after Classes Begin in the Fall and Spring Terms. During the drop/add period changes may be made in course schedules through ACES. Students may drop and add courses during the first week of classes in the fall and spring terms at their own discretion; during the second week of the semester they may drop courses at their own discretion, but a permission number provided by the appropriate instructor or department is required for adding a course. After the drop/add period no course may be added; also, a course may not be changed to or from the audit basis. Students have until one week after the drop/add period ends to secure permission to take a course on a satisfactory/unsatisfactory grading basis. Students who have elected to register for a course on a satisfactory/unsatisfactory grading basis may subsequently change to a letter grade basis by filing a request with the university registrar up to the first day of the final four weeks of classes. To withdraw from a course, students must obtain permission from their academic dean; and for reasons of course overload, i.e., more than four semester courses, the academic dean may give permission prior to the final four weeks of classes. The academic dean may also permit students with compelling reasons and in a normal course load to withdraw from a course up to the first day of the final four weeks of classes. After the drop/add period, students permitted to withdraw receive a designation of W on their academic record. Course work discontinued without the dean's permission will result in a grade of F.
When students note errors in their course schedules, they should consult immediately with their academic dean during the schedule correction period that occurs immediately after drop/add ends.

**Course Changes for the Summer Terms.** Course changes during the summer term are accomplished through ACES. Duke students who are blocked from continuing into a summer term must see their academic dean.

Courses may be added before or during the first three days of the term. After the third day of the term, no course may be added. Prior to the first day of the term, students may drop a course or courses for which they have registered without penalty. During the first three days of the term, students will be charged $150 per course for dropping a course or courses if this results in any reduction in course load for the term. With the permission of the academic dean, students with compelling reasons may withdraw from a course through the twentieth day of a regular term (sixteenth day at the Marine Laboratory); and a designation of \(W\) will be recorded on their academic record. Course work discontinued without the approval of the dean will result in a grade of \(F\). (See also the section on withdrawal charges and refunds.)

**Accommodations**

The Duke University Student Disability Access Office assists students with disabilities who are enrolled in Trinity College and the Pratt School of Engineering. In order to receive consideration for reasonable accommodations under Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 (ADA), and the ADA Amendments Act of 2008, a student must have a physical or mental impairment that substantially limits one or more major life activities in comparison to the average person in the general population.

Students requesting accommodations under the provisions of the ADA, ADA Amendments Act of 2008, and Section 504 of the Rehabilitation Act of 1973 (e.g., academic, accessibility, housing) must contact the director of the Student Disability Access Office at (919) 668-1267, to explore possible coverage. Students with other medical conditions that may require special assistance (e.g., housing, dining) must contact Duke Student Health Service at (919) 684-3367 for further information. For academic assistance available to all Duke undergraduate students, please refer to the Academic Resource Center section of this bulletin.

**Course Load and Eligibility for Courses**

*Students are reminded that it is their responsibility to be certain that their course load conforms with academic requirements.* In fall and spring terms, students must enroll in at least four course credits. After their first semester, students can enroll in a maximum of 5.5 credits per semester without special permission from their academic dean. With permission of their academic dean, a student can enroll in a maximum of 6.0 credits. Seniors may request an underload, including part-time status, for the last semester (see the section on Full-Time and Part-Time Degree Status on page 57 in this chapter). Students may make a request to their academic dean to be in an underload (defined as a course load between 3.0 and 3.75 credits) twice during their time at Duke. That is, the number of semesters a student may be in an underload may not exceed two semesters. Students should take note that two additional semester credits are needed in order to meet the thirty-four (34) semester-course requirement for graduation. During the drop/add period, students in Trinity College may ordinarily register for up to five and a half course credits. Students on academic probation may register for no more than four course credits, and the academic dean may also limit the course load for a student who has previously received an academic warning. Registration for six course credits requires the approval of their academic dean. During the same period, students in the Pratt School of Engineering may register for up to five course credits, and up to five and a half or six course credits with the approval of their academic dean. In no case will students be allowed to register for more than six credits. Students must be enrolled in at least three course credits per semester in order to be considered in full-time status for loan deferment and athletic eligibility purposes.

The maximum course program for one term of the summer session is two courses, one of which may be a laboratory course. Students in the Pratt School of Engineering may enroll in two laboratory courses. In
addition, a student may enroll in a physical education activity or technique/performance activity course for one-half course credit.

Eligibility for Courses. The rules established by the Graduate School provide that juniors and seniors may enroll in a 500-699-level (senior/graduate) course. Students wishing to enroll in a 500-799-level course in their sophomore (second) year must secure permission of the instructor of the course and of their academic dean. Juniors and seniors are normally not allowed to enroll 700-999-level courses. Under exceptional circumstances, however, permission to do so may be granted, provided the instructor, the director of graduate studies, their academic dean, and the dean of the Graduate School give their signed permission.

Students are responsible for ensuring that they have the stated prerequisites for a course. ACES prevents registration for some, but not all, courses when the prerequisite is not fulfilled. Students must check the course description to determine if they have taken the necessary prerequisites before enrolling in the course.

In certain subjects, such as the sciences, mathematics, and the foreign languages (particularly at the introductory and intermediate levels), some lower level courses must be taken in sequence because the content presented at one level is necessary for successful work at the next higher level. Given this circumstance, it follows that students who complete a higher level course in a sequence may not subsequently enroll in a lower one in that sequence. Information about course eligibility is often contained in the official description of the course (see the chapter "Courses and Academic Programs"). Students may direct additional questions about course sequencing to their academic dean.

Seniors who, at the beginning of the final term, lack no more than three semester courses toward the fulfillment of the requirements for the Bachelor of Arts or Bachelor of Science degree may enroll in graduate courses, for a maximum course load of five semester courses. Admission to the Graduate School is necessary.

Students may not register for two courses officially listed as meeting at the same time. In Trinity College no course may be repeated for credit or a grade if a C- or higher has been earned previously, except where noted in the course description. Furthermore, a course taken at another institution with a grade of C- or above and not transferred to Duke may not be repeated at Duke. If it is determined such a course has been taken elsewhere and repeated at Duke, the Duke course will be removed from the academic record. A course previously passed at another educational institution, however, may be audited at Duke. Physical education activity courses may be repeated, but only one full credit of these courses counts toward graduation.

Students who receive a D-, D, or D+ in any course in Trinity College are allowed to repeat the course only at Duke and with permission of their academic dean. The grade earned in the repeated course as well as the grade earned originally appear on the transcript, the former identified as a repeat; both grades count in the grade point average, but the credit for only one counts toward the required number of courses for continuation and the thirty-four (34) courses required for graduation. Course repeat request forms are available in the offices of the academic deans.

Course Audit

Students who audit a course submit no daily work and take no examinations, but are expected to attend class sessions. They do not receive credit for the course. With the written consent of the instructor, a full-time degree student is allowed to audit one or more courses in addition to the normal program. Students must register for audit courses by submitting a signed permission note from the instructor to the Office of the University Registrar. The prohibition against registering for two courses meeting at the same time applies. After the drop/add period in any term, no student classified as an auditor in a particular course may take the course for credit, and no student taking a course for credit may be reclassified as an auditor. Physical education activity, studio art, applied music, and dance technique/performance courses may not be audited. In the fall or spring term, a part-time degree student may audit courses by payment for each course audited. In a summer term, a student carrying two courses for credit may be given permission to audit, without additional fees, nonlaboratory courses with the above exceptions. A student in a summer term carrying less than a full program for credit may secure permission to audit (above exceptions apply) but is required to pay an audit fee for the course. A student may not repeat for credit any course previously audited.
Courses may be audited by faculty members, staff, alumni, employees and their spouses, as well as spouses of currently enrolled students, and members of the Osher Lifelong Learning Institute at Duke. Formal application is not necessary; written permission from the instructor must be obtained and an approval form must be signed by the director of the Office of Continuing Studies. Consult the chapter “Financial Information” on page 98 for the appropriate fee schedule. Auditors must register on the Friday before classes begin.

**Independent Study**

Independent study enables a student to pursue for course credit individual interests under the supervision of a faculty member. Independent study is of two types: Independent Study (non-research) and Research Independent Study. Both require (1) approval of the instructor involved as well as the director of undergraduate studies in the relevant department or program; (2) student meetings at least once every two weeks during fall or spring semester and once each week during summer semester; (3) completion of a final product to be completed during the semester for which a student is registered for the course; (4) evaluation by the instructor of the work, including the final product, associated with the independent study. The independent study form is available at [http://trinity.duke.edu/academic-requirements](http://trinity.duke.edu/academic-requirements).

Courses entitled Independent Study are individual non-research directed study in a field of special interest on a previously approved topic taken under the supervision of a faculty member and resulting in an academic and/or artistic product. Such independent study courses do not bear a Research (R) code and do not satisfy any general education requirement. Courses entitled Research Independent Study are individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Such research independent study courses bear a Research (R) code and satisfy general education Research requirements. One research independent study may be submitted and approved for a Writing (W) code in addition to the R code designation, but no other curriculum code designations are permitted for research independent study courses. Students who wish to request a W code for one research independent study course must take the appropriate form to 011 Allen Building by the end of the semester they are enrolled in the course. The request form is available at [http://t-reqs.trinity.duke.edu/](http://t-reqs.trinity.duke.edu/).

**Academic Internships**

In Trinity College course credit can be earned for internships only when they include as a component an academic course of instruction. Academic internships must be offered under the auspices of an academic unit in Trinity College. Each student's internship must be sponsored by a departmental/program faculty member and approved by the director of undergraduate studies. Such internships typically draw upon work experience to investigate a research problem from one or more intellectual/disciplinary perspectives. They thus have an experiential component and a formal intellectual component leading to submission of a substantive research paper for evaluation. Academic internships are of two types: 1) academic internships that are required for an existing major and are required in programs designed to meet state teaching certification standards; 2) all other academic internships, which are considered to be electives. Only one course credit from these elective academic internships may count toward the thirty-four (34) course credits required for graduation. Further information about procedural requirements may be obtained from the academic deans.

**Submission of Term Paper**

Students who wish (under unusual circumstances) to submit a single paper for credit in more than one course must receive prior written permission from each course instructor. The student must indicate the multiple submission on the title page of the paper.

**Declaration of Major in Trinity College of Arts and Sciences**

All students entering Trinity College enter as undeclared majors and are assigned an academic advisor and academic dean. Before declaring a major in Trinity College, students work with their academic advisors and with other members of the faculty and staff to develop a long-range academic plan which outlines progress
and academic goals for the future. The plan should describe the proposed major program, related curricula and co-curricula experiences, and the general pattern of elective courses, as well as the means by which the student will meet established college requirements for graduation. Although students may declare a major as early as the spring of the first undergraduate year, all students must secure formal approval of their long-range plans and declare a major no later than the last day of class prior to the mid-semester break of their fourth semester. Students who do not declare their major will be prevented from registering for classes for their fifth undergraduate semester and from participating in a semester or year-long study abroad program. The long-range plan is available on ACES.

After declaring a major, students are assigned an advisor in the department of the major and an academic dean in that division. Students who, having already declared a major, wish to change it should do so in the Office of the University Registrar. Any changes in majors or minors made after the end of the drop/add period in the senior year must be made through the graduation clearance office in Trinity College.

A student may declare an interdepartmental major in two Trinity College departments or programs that offer a major after receiving the approval of the directors of undergraduate studies of the departments involved. The interdepartmental major must be planned early in the undergraduate career. It must consist of fourteen or more courses; the courses must be split evenly between the two departments; at least four of the seven courses required by each department must be taught within the department. While one of the departments must be identified as the department primarily responsible for the advising for the student’s interdepartmental major program, the student must have an advisor in both departments. A student who has not yet declared a major and is interested in an interdepartmental major should consult the Academic Advising Center as part of the process of completing the long-range plan and declaring the interdepartmental major. A student who has already declared a major and is interested in changing to an interdepartmental major should consult the academic dean responsible for students completing an interdepartmental major. Students proposing an interdepartmental major must present a written plan that has the signed approval of the two directors of undergraduate studies to the Academic Advising Center or the academic dean for interdepartmental majors, as noted above; the plan must include a descriptive title and rationale as well as a list of courses that will be taken in both departments. Any subsequent changes to the course of study must be jointly approved by the directors of undergraduate studies.

A student who has already declared one major and then wishes to declare a second major may do so in the Office of the University Registrar. Only one undergraduate degree may be earned; however if the student's second major is not offered within the degree to be granted for completion of the first major, a notation of the second major will appear on the transcript. A student may not declare more than two majors. Majors offered within each degree are listed below:

**Bachelor of Arts.** African and African American studies, art history, art history/visual arts (combined), Asian and Middle Eastern studies, biology, biophysics, Canadian studies (second major only), chemistry, classical civilization, classical languages, computer science, cultural anthropology, dance, earth and ocean sciences, economics, English, environmental sciences and policy, evolutionary anthropology, French, German, history, international comparative studies, Italian, Latin American and Latino/a studies, linguistics, literature, mathematics, medieval and Renaissance studies, music, neuroscience, philosophy, physics, political science, psychology, public policy studies, religion, romance studies, Russian, Slavic and Eurasian studies, sociology, Spanish, statistical science, theater studies, visual arts, visual and media studies, and women's studies.

**Bachelor of Science.** biology, biophysics, chemistry, computer science, earth and ocean sciences, economics, environmental sciences, evolutionary anthropology, mathematics, neuroscience, physics, psychology, and statistical science.

### Class Attendance and Missed Work

Responsibility for class attendance rests with individual students, and since regular and punctual class attendance is expected, students must accept the consequences of failure to attend. Instructors may refer to their academic dean students who are, in their opinion, absent excessively.
Missed work associated with absence from class is accommodated in three circumstances: 1) illness or other extraordinary personal circumstance, 2) religious observance, and 3) varsity athletic participation. Detailed information about the policy and the notification procedure is available at: http://trinity.duke.edu/academic-requirements for students in Trinity College, or for students in the Pratt School of Engineering at: http://www.pratt.duke.edu/policies-procedures.

Missed work associated with any other absence is not covered by this policy. In courses where a defined number of absences is permitted, students should make judicious use of them and save them for unavoidable circumstances. Students are encouraged to discuss any absence, planned or unexpected, with their instructor to determine whether accommodation is possible. The nature of the accommodation, if any, is to be determined by the faculty member in accordance with their attendance policy as outlined in the course syllabus.

**Class Scheduling**

Class times are officially scheduled at registration unless designated "to be arranged" (TBA). After registration begins, no class time may be changed without prior permission of the Chair of the University Schedule Committee. Within-class tests (except for the final) are to be given at the regular class meeting times. Exceptions are made for block tests that have been approved by the Chair of the University Schedule Committee.

**Incomplete Course Work**

If, because of illness, emergency, or reasonable cause, a student cannot complete work for a course, the student may request in writing to his or her academic dean the assignment of an I (incomplete) for the course. (Forms are available at: http://trinity.duke.edu/academic-requirements.) If the request is approved by the instructor in the course and by the student's academic dean, then the student must satisfactorily complete the work by the last class day of the fifth week of the subsequent regular semester (or earlier if there is a question of the student's continuation in school). Professors may also establish earlier deadlines. An I assigned in the fall, spring, or summer terms must be resolved in the succeeding spring or fall term, respectively. If the I is not completed by the deadline, it will convert to an F grade. If a student whose work is incomplete is also absent from the final examination, an X is assigned for the course (see below). A student not enrolled in the university or studying away during the semester following receipt of an I or X will have until the end of the fifth week of classes of the next semester (fall or spring) of matriculation to clear the I or X unless an earlier due date is established by the instructor and/or the academic dean. Students may not complete work in a course after graduation. Once recorded, a notation of the I or X will remain permanently on the student's record, even after the final grade is assigned for the course. In addition, an I cancels eligibility for Dean's List and Dean's List with Distinction.

**Final Examinations and Excused Absences**

The times and places of final examinations for the fall and spring terms are officially scheduled by the University Schedule Committee, generally according to the day and hour of the regular course meeting; changes may not be made in the schedule without the approval of the committee. If a final examination is to be given in a course, it will be given at the time scheduled by the University Schedule Committee. Take-home examinations are due at the regularly scheduled hour of an examination, based on the time period of the class. In courses in which final examinations are not scheduled, an exam that substitutes for a final examination may not be given in the last week of classes. Hourly tests may be given in the last week of classes, whether or not a final examination is administered during the exam period. In the summer session, final examinations are held on the last two days of each term as specified in the Bulletin of Duke University Summer Session and may not be scheduled within the last three days before the examination period. Final examinations for short courses are held on the last day of the course.

No later than the end of the first week of classes of the fall and spring term, the instructor is required to announce plans for the final examination exercise. Unless departmental policy stipulates otherwise, the form
of the final exercise is determined by the instructor. However, a final written examination may not exceed three hours in length and a final take-home examination may not require more than three hours in the actual writing.

If a student is absent from a final examination, an X is given instead of a final grade unless the student's grade in the class is failing, in which case the instructor may submit an F. The student must present an acceptable explanation for the absence to the appropriate academic dean within forty-eight hours after the scheduled time of the examination. Because end-of-the-semester travel arrangements are not the basis for changing a final examination, students are advised to consult the final examination schedule when making such arrangements. Deferral of a final examination will not be authorized by the academic dean if it is ascertained that the student has a history of excessive absences or failure to complete coursework in a timely fashion in the course in question. The X is converted to an F if the academic dean does not approve the absence. If the absence is excused by an academic dean, the student arranges with the dean and the instructor for a make-up examination to be given at the earliest possible time. It should be noted that uncleared grades of X may have significant ramifications regarding continuation in the university. (See Grading and Grade Requirements below.) An excused X not cleared by the end of the fifth week of the following semester is converted to an F. Once recorded, a notation of the X will remain permanently on the student's record, even after the final grade is assigned for the course. A student not enrolled in the university or studying away during that following semester has until the end of the fifth week of the next semester of enrollment to clear the X unless an earlier deadline has been established by the instructor and/or the academic dean.

**Grading and Grade Requirements**

Final grades on academic work are provided to students via ACES after the examinations at the end of each term. Midterm advisory grades for first-year students are issued in the fall and spring, and are provided to students via ACES.

**Passing Grades.** Passing grades are A, exceptional; B, superior; C, satisfactory; S, satisfactory (see satisfactory/unsatisfactory option below); and D, low pass. These grades (except S) may be modified by a plus or minus. A Z grade may be assigned for the satisfactory completion of the first term of a two-course sequence, and the final grade for both courses is assigned at the end of the second course of the sequence.

Although the D grade represents low pass, in Trinity College not more than two courses passed with D grades may be counted among those required for year-to-year continuation or among the thirty-four course credits required for graduation. Courses for which a D grade is earned, however, satisfy other requirements. For information on repeating a course with a D grade, see the section on course load and eligibility for courses on page 47.

**Failing and Unsatisfactory Grades.** A grade of F or U (see satisfactory/unsatisfactory grading system below) indicates that the student has failed to meet the requirements for the course. The grade is recorded on the student's record. If the student registers for the course again, a second entry of the course and the new grade earned are made on the record, but the first entry is not removed. All grades that appear on the record, with the exception of S and U, are included in the calculation of the cumulative grade point average.

**Grade Point Average.** The grade point average is based on grades earned in courses offering credit at Duke and may be calculated based on the following numerical equivalencies to the grading system:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.0</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>

52 Academic Procedures and Information
With satisfactory/unsatisfactory courses, neither S nor U are calculated into the grade point average. The semester and cumulative grade point averages are determined at the end of each semester and displayed for students on the academic history reports made available to them via ACES.

**Satisfactory/Unsatisfactory Grading System.** With the consent of the instructor and academic dean a student may register for grading on a satisfactory/unsatisfactory (S/U) basis in one course each semester and summer session, although only four (4) courses taken on this basis may be counted toward the 34 courses required for graduation. The limit of four does not apply to courses that are only offered on the S/U basis. A grade of S will be awarded if the student has earned the equivalent of a letter grade of C- or better, while a U will be awarded for the equivalent of a D+ or worse grade. Neither an S nor a U will be factored into the grade point average. Students who receive a U will receive no credit for the course and will be ineligible for Dean’s List in that semester. Courses taken on an S/U basis (whether offered only on this basis or elected by the student) do not count toward general education requirements, except the requirement for thirty-four course credits and continuation requirements. Additionally, no other degree requirements (major, minor, certificate, including prerequisites) may be met by a course passed under the S/U option, unless by special permission from the Director of Undergraduate Studies of the department or program. Taking a course on the S/U basis may make one ineligible for the Dean’s List (see the section on academic honors in this chapter). Students studying abroad or on domestic study away programs may not receive credit for courses taken on an S/U or pass/fail basis.

Students who wish to take a course on an S/U basis must obtain permission from the instructor and their academic dean. Students have until one week after the drop/add period ends in the fall or spring semester to secure permission to take a course on the S/U basis. (Summer term students must do so by the end of the drop/add period.) Students who have elected to register for a course on an S/U basis may subsequently change to a letter grade basis by filing a request with the Office of the University Registrar up to the first day of the final four weeks of classes. An S grade earned in a course may not be converted subsequently to a letter grade, and the course may not be retaken.

Students who, viaaccommodation by the Student Disabilities Access Office (SDAO), register for 3 credits per semester may take a maximum of one S/U course per semester.

**Grades When Absent from Final Examination.** See the section on final examinations and excused absences on page 51.

**Effects of Incomplete Work.** For purposes of determining satisfactory progress each term and toward graduation, incomplete work in a course indicated by a grade of I or X is considered a failure to achieve satisfactory performance in that course. Furthermore, an incomplete (I grade) during the academic year cancels eligibility for semester honors; i.e., Dean's List and Dean's List with Distinction. See the section on incomplete work on page 51.

**The W and WA Designations.** The designation W is recorded when a student officially withdraws from a course after the drop/add period. (See the sections on course changes in this chapter.) W/A indicates withdrawal from an audited course.

**Continuation**

Students must achieve a satisfactory record of academic performance each term and make satisfactory progress toward graduation each year to continue in the college. Students who fail to meet the minimum requirements to continue must leave the college for at least two semesters. (A summer session may be counted as a semester.) Those desiring to return after the dismissal period may apply to Trinity College of Arts and Sciences or the Pratt School of Engineering for readmission. If, after readmission, the student fails again to meet minimum requirements, the student will be ineligible, except in extraordinary instances and after a minimum of five years, for readmission to the college. Students admitted to degree programs from Continuing Education should consult their academic dean concerning continuation.
Satisfactory Performance Each Term (Semester Continuation Requirements). A student who does not receive a passing grade in all courses must meet the following minimum requirements or be withdrawn from the college.

In the Fall or Spring Semester: (1) in the first semester of enrollment at Duke, a student must pass at least two semester course credits; (2) after the first semester at Duke, a student must pass at least three semester course credits; (3) a student taking an authorized underload after the first semester at Duke must earn all passing grades. Students may not carry an underload without the permission of their academic dean. For the purposes of continuation, incomplete work in any course is considered a failure to achieve satisfactory performance in that course. Therefore, where continuation is in question, incomplete work in any course must be completed with a passing grade in time for final grades to be submitted to the Office of the University Registrar no later than the weekday preceding the first day of classes of the spring semester, or one week prior to the first day of classes of the second term of the summer session, as appropriate. In the case of incomplete work in the spring semester, this requirement applies whether or not the student plans to attend one or more terms of the summer session. The student, however, may not enroll in a summer term at Duke unless the requirement of satisfactory performance each semester has been satisfied.

In the Summer Session: to continue enrollment at Duke in the fall, a student enrolled at Duke in any previous semester must not fail more than one full course taken during that summer. For purposes of continuation, incomplete work is considered failure to achieve a satisfactory performance in that course. Therefore, when eligibility to continue from the summer session to the fall is in question, incomplete courses must be satisfactorily completed in time for a passing grade to be submitted to the Office of the University Registrar no later than the weekday preceding the first day of fall classes.

Any student excluded from the college under the provisions of these regulations may on request have the case reviewed by the senior associate dean of Trinity College of Arts and Sciences.

Satisfactory Progress toward Graduation (Annual Continuation Requirements). Each year prior to the beginning of fall term classes, a student must have made satisfactory progress toward fulfillment of curricular requirements to be eligible to continue in the college; i.e., a certain number of courses must have been passed at Duke according to the following schedule:

<table>
<thead>
<tr>
<th>To be eligible to continue to the</th>
<th>A student must have passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd semester at Duke</td>
<td>2 semester course credits at Duke</td>
</tr>
<tr>
<td>3rd semester at Duke</td>
<td>6 semester course credits at Duke</td>
</tr>
<tr>
<td>4th semester at Duke</td>
<td>10 semester course credits at Duke</td>
</tr>
<tr>
<td>5th semester at Duke</td>
<td>14 semester course credits at Duke</td>
</tr>
<tr>
<td>6th semester at Duke</td>
<td>19 semester course credits at Duke</td>
</tr>
<tr>
<td>7th semester at Duke</td>
<td>22 semester course credits at Duke, plus two additional course credits¹</td>
</tr>
<tr>
<td>8th semester at Duke</td>
<td>26 semester course credits at Duke, plus two additional course credits¹</td>
</tr>
</tbody>
</table>

¹The additional semester courses may be earned through advanced placement and/or transferred courses.

For students who have interrupted their university studies, the continuation requirement must still be satisfied before the beginning of each fall term. For such students, the number of courses needed to satisfy the continuation requirement is determined from the table above, based on which semester they will enter in the fall term.

Courses taken in the summer term at Duke may be used to meet this requirement; except as noted, advanced placement may not be used to satisfy it. No more than two courses completed with D grades may be counted toward fulfilling this annual continuation requirement.
Academic Warning and Probation

A student whose academic performance satisfies continuation requirements (see above), but whose record indicates marginal scholarship, will be subject either to academic warning or academic probation. Failure to clear probationary status in the semester of probation will result in a student's dismissal for academic reasons. (See the section "Continuation" for information concerning dismissal.) Students admitted to degree programs from Continuing Education should consult their academic deans concerning warning and probation.

In determining whether a student should be placed on academic warning, probation or dismissed for academic reasons, a grade of U earned in a course, whether that course is offered only S/U or the student elects to take it on the S/U basis, is considered equivalent to a grade of F.

**Academic Warning.** A student who receives a single grade of F while enrolled in four or more courses or a second (or more) D will be issued an academic warning by the academic dean.

**Academic Probation.** For a student enrolled in four or more semester courses, the following grades will result in academic probation for the succeeding semester: during the first semester of the freshman year, grades including DD, DF, or FF; during any subsequent semester, grades including DDD, DF or FF (as long as the student has passed three other semester courses); and during two consecutive semesters, grades including DDDD, DDDF, or DDDF. For a student enrolled in an authorized underload (i.e., fewer than four course credits), the following academic performance will result in academic probation: during the first semester of the freshman year, grades of DD or F; during any subsequent semester, grades including DDD or DF (as long as 3.0 course credits have been passed in that semester); and during two consecutive semesters, grades including DDDD, DDDF, or DDDF. In a case where probation may be in question because of an incomplete grade, the student will be notified by the dean of the need to have the incomplete replaced by a satisfactory grade in order to avoid probation.

The probation status will be reflected on those academic records used for internal purposes only. Students placed on academic probation must acknowledge their probationary status in writing to their academic dean in order to continue in the college. They are also expected to seek assistance from campus resources, have their course selection approved by their academic deans and meet periodically with them. They may not study abroad during the probation period. Students are expected to clear their probationary status during the semester of probation. In order to do so, they must enroll in four full-credit courses, of which no more than one may be taken on a satisfactory/unsatisfactory basis. Grades of C-, S, or better must be earned in each course, or a C average must be achieved in that semester.

Probationary status cannot be cleared in a semester in which students seek permission and are allowed to withdraw to an underload. In such cases, the probationary status continues through the next semester of enrollment or in both terms of the summer session. Students on probation, whether in a normal load or an underload, are required to meet continuation requirements. Students whose probationary status for reason of an underload continues to a second semester must adhere to the conditions and standards previously outlined for clearing probation. Failure to do so will result in academic dismissal.

**Changes in Status**

**Withdrawal and Readmission.** Students who wish to withdraw from the college must give official notification to their academic dean. Notification must be received prior to the beginning of classes in any term, or tuition will be due on a pro rata basis. (See the section on refunds in the chapter “Financial Information” on page 98.) For students withdrawing on their own initiative after the beginning of classes and up to the first day of the last four weeks of regular classes in the fall or spring term, or before the last two weeks of regular classes in a summer term, a W is assigned in lieu of a regular grade for each course. After these dates an F grade is recorded unless withdrawal is caused by an emergency beyond the control of the student, in which case a W is assigned by the student's academic dean. Withdrawals from the university during a semester will not be approved after the last day of classes. Students who withdraw voluntarily during the last four weeks of classes may not apply for readmission for the subsequent semester.
Students may be involuntarily withdrawn for academic reasons, financial reasons, violation of academic regulations, disciplinary reasons, as well as administratively. Their withdrawal will be noted accordingly on the official academic record. The expectations pertaining to each are found in the chapters "Degree Programs," "Financial Information," "Campus Life and Activities," and this chapter, "Academic Procedures and Information." Students with a dismissal pending are not in "good standing" and therefore are ineligible to undertake coursework scheduled to be taught during the pending dismissal period.

Applications for readmission are made to the appropriate school or college. Each application is reviewed by officers of the school or college to which the student applies, and a decision is made on the basis of the applicant's previous record at Duke, evidence of increasing maturity and discipline, and the degree of success attendant upon activities during the time away from Duke. Students who are readmitted are eligible to live in on-campus housing unless they have been deemed ineligible due to a university sanction.

Applications for readmission must be completed by November 1 for enrollment in the spring, by April 1 for enrollment in the summer, and by July 1 for enrollment in the fall. For more information, students returning to the Pratt School of Engineering should visit [http://pratt.duke.edu/policies-procedures](http://pratt.duke.edu/policies-procedures). Students returning to Trinity College should visit the Office of Student Returns Web site: [http://trinity.duke.edu/OSR](http://trinity.duke.edu/OSR).

**Leave of Absence.** Most leaves of absence are granted for two reasons: personal or medical. After reaching the second semester of the first year, students in good standing may request a personal leave of absence for one or two semesters by completing a leave request form and submitting it to their academic dean prior to the first day of classes of the term in which the leave is granted. A personal leave of absence starts after one semester ends and before the next semester begins. A personal leave of absence is not granted for a term in which classes have begun.

A medical leave of absence with proper documentation may be granted at any time but with one restriction. Students requesting a medical leave of absence during a current term must file the leave of absence forms with their academic dean prior to the end of the last day of classes of that term. Students who request a medical leave of absence for a current term and submit their leave request prior to the last day of classes will be assigned \( W \) in lieu of a regular grade for each course. A medical leave of absence will not be retroactively granted for a term for which the last day of classes has already occurred. Ordinarily, students who take a medical leave of absence are required to be away for two terms beyond the term in which the medical leave was granted. A full summer session counts as one term.

Registration information will be provided by the university registrar to all students who are approved to return from a leave of absence. All returning students must register prior to the first day of classes for the term of intended enrollment. Students returning from approved leaves and desiring housing on campus will be placed in the general housing lottery, provided they have submitted the appropriate information to the Office of Residence Life and Housing Services by its published deadline and provided that they lived on campus before taking their approved leave. Students who fail to return as expected will be withdrawn from the university and will have to apply for readmission. Detailed information about requesting and returning from a leave of absence is provided on the request form available in the academic deans’ offices and on the respective websites. Students returning to Trinity College of Arts and Sciences should visit the Office of Student Returns Web site: [http://trinity.duke.edu/OSR](http://trinity.duke.edu/OSR). Students returning to the Pratt School of Engineering should visit [http://www.pratt.duke.edu/policies-procedures](http://www.pratt.duke.edu/policies-procedures).

Students who undertake independent study under Duke supervision and for Duke credit are not on leave of absence even if studying elsewhere. Students register at Duke as a nonresident student and pay the appropriate fees or tuition at Duke. This policy also applies to Duke programs conducted away from the Durham campus.

**Transfer Between Duke University Schools.** Students in good standing may be considered for transfer from one Duke undergraduate school or college to another, upon completion of an application form available in the office of the designated associate dean in Trinity College and the assistant dean for undergraduate affairs.
The review of requests to transfer involves consideration of a student's general academic standing, citizenship records, and relative standing in the group of students applying for transfer. The school or college to which transfer is sought will give academic counseling to a student as soon as intention to apply for transfer is known, although no commitment will be implied. A student may apply to transfer at any time prior to receiving a baccalaureate degree, but transfers may become effective only upon completion of the first year. A student transferring to Trinity College of Arts and Sciences from the Pratt School of Engineering, prior to receiving a baccalaureate degree, may not use more than six professional school credits toward the Bachelor of Arts or Bachelor of Science degree. If admitted to either Trinity College or the Pratt School of Engineering after having earned a baccalaureate degree at another institution, a student must complete in the new school/college a total of seventeen additional courses and fulfill degree requirements in order to be eligible for a second undergraduate degree at Duke.

**Transfer from Duke to Another Institution.** Students who enroll at Duke and subsequently transfer to another institution as degree-seeking students, will be eligible to apply for readmission to Duke within one academic year of their original withdrawal date. One academic year is defined as one fall and one spring, not including summer terms. Former Trinity College students cannot transfer more than the equivalent of two domestic transfer credits back to Duke. Former Pratt School of Engineering students cannot transfer more than the equivalent of four semester credits back to Duke. For both Trinity and Pratt students, any transfer credits will count towards the maximum allowable transfer credits from another institution as stipulated under the policy “Work Taken After Matriculation at Duke” in this chapter. Students considering transferring to another institution should discuss this with their academic dean in the early stages of their planning.

**Full-Time and Part-Time Degree Status.** Candidates for degrees must enroll in a normal course load (i.e., at least four semester courses) each semester unless they are eligible and have received permission from their academic dean to be enrolled in fewer than 4.0 course credits (see “Course Load and Eligibility for Courses” on page 47 in this chapter). Students who intend to change from full-time to part-time status must request permission from their academic dean. Except for extraordinary circumstances, such permission is given only to students for the final semester of their senior year. So that the number of part-time students can be taken into account in enrollment and budget decisions, juniors must plan ahead and register their intention to be part-time by April 15 preceding the academic year in which the part-time semester will be taken. Part-time students may register for not more than two one-credit courses (or two one-credit courses and a half-credit physical education activity). Part-time students may not live in university housing save for exceptional circumstances (e.g., upon the recommendation of the Student Disability Access Office (SDAO)). Degree candidates who matriculated through Continuing Education or are employees should confer with their academic dean about course load requirements.

**Resident and Nonresident Status.** See the chapter “Campus Life and Activities” on page 84.

**Nondegree to Degree Status.** A nondegree student must apply to the Office of Undergraduate Admissions for admission to degree candidacy.

**Undergraduate Status.** An undergraduate student admitted to Trinity College or the Pratt School of Engineering officially becomes a Duke undergraduate student at the point of matriculation and is accorded all the rights, privileges and responsibilities of a Duke student at that time. When an undergraduate has completed all of the requirements of the bachelor’s degree and is no longer enrolled in course work towards the degree, the student ceases to be a Duke undergraduate student in the strict sense of the word. Their rights and privileges are then defined by the Duke Alumni Association. (Note: this definition also applies to non-degree seeking visiting students during the period of their enrollment at Duke.)

**Academic Recognition and Honors**

In determining a student's eligibility for academic recognition and honors, only grades earned in Duke courses, including those earned in Duke Study Abroad programs and in courses covered by the interinstitutional agreement (see index) are considered.
Dean's List accords recognition to academic excellence achieved during each semester. To be eligible for this honor, undergraduates in Trinity College of Arts and Sciences must earn a grade point average for a semester that places them in the highest third of undergraduates in their respective college and in addition must (1) complete at least four course credits, including at most two academic half courses (excluding dance performance/technique, physical education activity, music activity, and house courses) for a regularly assigned grade (i.e., no satisfactory/unsatisfactory courses); and 2) receive no incomplete or failing grades. Undergraduates who in addition earn semester grade point averages that place them in the highest ten percent of undergraduates in their respective college will receive the Dean's List with Distinction honor, while the remainder of those placing in the highest one third will receive the Dean's List honor as noted above.

In the Pratt School of Engineering, undergraduates must earn a grade point average placing them in the highest one third of their class and in addition must: (1) complete at least four course credits, including at most two academic half courses (excluding dance performance/technique, physical education activity, music activity, and house courses) for a regularly assigned grade (i.e., no satisfactory/unsatisfactory courses); and (2) receive no incomplete or failing grades. Undergraduates who in addition earn grade point averages that place them in the highest ten percent of their class also will receive the Dean’s List with Distinction honor, while the remainder of those placing in the highest one third will receive the Dean’s List honor as noted above.

Graduation with Distinction accords recognition to students who achieve excellence in their major area of study as determined by the departments and as approved by the Committee on Honors of the Arts and Sciences Council or who demonstrate excellence on the basis of a thesis or other substantive scholarly project not anchored in a major but rather in a certificate program, a minor, or any other elective field of study. All academic units offering a major have eligibility requirements and procedures leading to graduation with distinction, as does Program II. Some may offer a double honors option, that is, honors in two academic units for a single thesis, though this is expressly precluded in the case of students pursuing graduation with distinction based on a project not associated with a major. Graduation with distinction is separate and distinct from Latin Honors (see below). Interested students should consult the relevant directors of undergraduate study or Program II dean for information about specific requirements of and eligibility for graduation with distinction. In general, students seeking to graduate with distinction will participate during their junior and/or senior years in a seminar and/or a directed course of reading, laboratory research, or independent study that results in substantive written work. Each student’s overall achievement in the major or Program II, including the written work, is assessed by a faculty committee. Graduation with distinction may be awarded at one of three levels: highest distinction, high distinction, or distinction, though not all academic units offer all levels.

Latin Honors by Overall Academic Achievement accords recognition for academic excellence achieved over the duration of an entire undergraduate career. Unlike the Dean's List honor which recognizes academic excellence achieved over the short term (one semester), eligibility for the three categories of Latin Honors (summa cum laude, magna cum laude, and cum laude) is based on the cumulative grade point average for all work at Duke. Recipients are determined by the following procedure: The grade point average included within the highest five percent of the previous year's graduating class is used to specify the grade point average needed by those students of the current graduating class to be awarded the summa cum laude honor. The grade point average included within the next highest ten percent of the previous year's graduating class is used to determine the grade point average needed by those students who will graduate with the magna cum laude honor. Finally, the grade point average included within the next ten percent of the previous year's graduating class will be used to determine those students eligible for graduating with the cum laude honor. Thus, about twenty-five percent of each graduating class will receive Latin Honors.

OTHER HONORS

Trinity College of Arts and Sciences and the Pratt School of Engineering officially recognize the following national academic honor societies, each of which has a long and distinguished reputation at Duke and throughout the United States. Because the last several years have seen a proliferation of academic societies
in America, undergraduates at Duke should be careful to scrutinize invitations to join national honor societies with which they are unfamiliar.

**Phi Beta Kappa.** Phi Beta Kappa, the national academic honor society founded at William and Mary on December 5, 1776, elects undergraduate students in Trinity College and the Pratt School of Engineering each fall and spring. Eligibility for election is determined not by the university but by the bylaws of the local chapter (Beta of North Carolina) on the basis of outstanding academic achievement and high moral character. Reviews of the academic record of all prospective candidates are conducted in the junior and senior years. The academic record must not contain an unresolved incomplete (I). For early election, students must have completed at least eighteen but fewer than twenty-four graded courses taken at Duke. Regular election requires at least twenty-four graded courses taken at Duke. Transfer students and other students who do not qualify under the preceding requirements may be eligible for deferred election; such students must also have achieved a superior academic record in graded courses at Duke, especially over the last sixteen courses. Students who have graduated magna cum laude and who have been awarded Graduation with Distinction in their first or second major through a vote of at least three faculty members may be nominated for election to Phi Beta Kappa by a faculty member in the distinction department. The nomination must be received by the end of the semester following the student’s graduation. Additional information is available on the honors Web site. The total number of persons elected annually is limited by chapter bylaw to no more than ten percent of the graduating class, of whom no more than one percent can be selected by early election. Eligibility requires a course of study with the breadth that characterizes a liberal education. The Program I curriculum meets those expectations; Program II and Engineering students must demonstrate comparable breadth in order to be eligible. Inquiries concerning distribution requirements for students in the Pratt School of Engineering should be directed to Professor Michael Gustafson, Department of Electrical Engineering. All other inquiries may be directed to the Secretary of Phi Beta Kappa, care of The Office of Undergraduate Scholars and Fellows: phi-beta-kappa@duke.edu.

**Sigma Xi.** The Scientific Research Society, Sigma Xi, is an honor society for engineers and natural, physical, chemical, and social scientists that recognizes scientific achievement. Undergraduates who have shown potential as researchers may be invited to join as associate members. Alternatively, an undergraduate student who is interested in membership in Sigma Xi and who has completed a significant research project in a pure or applied science may inquire about membership procedures through the Duke Chapter Office (sigmaxi@duke.edu). Full membership is conferred upon those who have demonstrated noteworthy research achievements, through peer-reviewed publications. A dues paying student member of Sigma Xi or a student whose project advisor is a dues paying member of Sigma Xi is eligible to apply for research support to the Society's Grants-in-Aid of Research program. More information is available from the Undergraduate Research Support Office at Duke or through the Chapter's (www.duke.edu/web/sigmaxi/) or the Society's Web site (www.sigmaxi.org).

**Tau Beta Pi.** Elections to the national engineering honor society, Tau Beta Pi, are held in the fall and spring. Eligibility is determined on the basis of distinguished scholarship and exemplary character. Engineering students whose academic standing is in the upper eighth of the junior class or the upper fifth of the senior class have earned consideration by their local chapter. Inquiries may be directed to the Advisory Board, Tau Beta Pi, Pratt School of Engineering, Box 90271, Duke University, Durham, North Carolina 27708.

**International Postgraduate Scholarships.** Students interested in various prestigious fellowships for graduate study (for example, the Fulbright, Luce, Marshall, Rhodes, and Winston Churchill) should consult the Web site: www.ousf.duke.edu/post-graduate-opportunities. Specific information about deadlines and procedures for the individual scholarships and fellowships is available through that site. Students with questions should contact the Office of Undergraduate Scholars and Fellows. Email ousf@duke.edu.

**Prizes and Awards**

The achievements of undergraduate students are recognized in various fields of activity. The following prizes suggest the range of recognition. According to current university policy, some of the scholarships listed
must be awarded in honorary form unless the students chosen are on financial aid, in which case the scholarships will be incorporated in the winners' financial packages. These scholarships are identified by an asterisk (*).

**HUMANITIES**

**The Edward H. Benenson Awards in the Arts.** These awards are granted annually by a faculty committee through the bequest of Duke alumnus and former trustee Edward H. Benenson. Funds are awarded based on merit for legitimate educational expenses for projects in art, music, theater, dance, creative writing, photography, film/video/digital and other art forms. All undergraduates and graduating seniors are eligible. The application deadline is in March; online instructions and applications are available in the spring on the Web site of the Undergraduate Research Support Office (http://undergradueresearch.duke.edu/programs/benenson).

**The Louis Sudler Prize in the Arts.** An award is presented annually by a faculty committee to a graduating senior who has demonstrated the most outstanding achievement in artistic performance or creation during four years of undergraduate work. The prize was established in 1983 through the generosity of Louis C. Sudler, Chicago, Illinois.

**The David Taggart Clark Prize in Classical Studies.** This prize derives from income earned on the generous bequest (1956) of Professor David Taggart Clark, classicist and economist. It is awarded to the senior major in classical civilization or classical languages who is judged to have written the best honors essay of the year, and consists of an important book or books in the field of classics.

**Harold Brody Award for Excellence in Musical Theater.** In recognition of exceptional achievement in musical theater, this award is given annually to a Duke student or group of students, with preference given to graduating seniors. It recognizes accomplishments in musical theater by students in the Department of Theater Studies, the Department of Music, and the student-run musical theater group Hoof 'n' Horn. The award was established by an alumnus with a deep affection for and appreciation of the art of musical theater.

**John M. Clum Distinguished Theater Studies Graduate Award.** This award is named for the distinguished founder of the Duke University Program in Drama, now the Department of Theater Studies. It recognizes a graduating senior who has made extraordinary contributions to the life of the department and who has exhibited outstanding personal and professional qualities.

**Alex Cohen Awards.** These awards, funded by the Alex Cohen Endowment and the Department of Theater Studies, support student initiatives in theater during the summer. Two to four grants are awarded every spring. These awards were established in honor of Alex Cohen (1972-1991), a Duke student and aspiring actor.

**The Jody McAuliffe Award for Excellence in Directing.** This award is presented annually to an undergraduate at Duke University for sustained excellence in directing for the stage. It is supported by alumnus Amit Mahtaney.

**Reynolds Price Award for Script-writing.** This award is presented annually by the Department of Theater Studies to a Duke undergraduate for the best original script for stage, screen, or television.

**Dale B.J. Randall Award in Dramatic Literature.** This award recognizes outstanding achievement in the study of dramatic literature. It is presented annually to the undergraduate student writing the best essay in a course in dramatic literature. It honors Professor Emeritus Dale B.J. Randall, a distinguished scholar of Renaissance English drama, a member of Duke’s English department faculty from 1957 to 1999 and of the Program in Drama from 1991 to 1999. He served as Interim Director of the latter in 1991-92.

**Kenneth J. Reardon Award.** This award recognizes outstanding commitment and leadership in theater design, management, or production. It was established in honor of Kenneth J. Reardon, former professor of English (1947-1980) and director of Duke Players (1947-1967). Professor Reardon was an inspiration to decades of students through his commitment to producing and teaching theater on the Duke campus. With the help of Professor Joseph Weatherby, he planned and implemented the conversion of an engineering building into what is now the beloved Branson Theater on East Campus.

**The Bascom Headen Palmer Literary Prize.** This prize is awarded annually to recognize the best senior honors thesis in literary study each spring. This prize was established in honor of Judge Palmer, who graduated from Trinity College in 1875 and won the first Hesperian Literary Society Medal of that year.

**The James Rolleston Prize for Best Honors Thesis in a Foreign Language.** This prize recognizes the extraordinary achievement of students writing theses in literary study in languages other than English. The award honors scholarship that demonstrates a deep knowledge and understanding of another language and culture, and exhibits the high degree of language proficiency required to write in a language other than English with academic sophistication and elegance.

**The Henry Schuman Music Prize.** A prize of $350 is awarded annually to a graduating senior for an original composition or a distinguished paper in music history or analysis. The award is sponsored by the Department of Music through a continuing gift from Dr. and Mrs. James H. Semans, who named the prize after Henry Schuman, a lifelong friend of the Semans and Trent families, a talented amateur violinist, and one who helped to build valued collections in the Duke library.
Giorgio Ciompi Scholarships. Named for the founder of the Ciompi String Quartet, Duke University's quartet in residence, these music scholarships are given to students who can demonstrate talent and achievement on a string instrument. Although recipients need not major in music, they are required to study privately. These scholarships cover fees for applied instruction.

The Smith Memorial Scholarship. This scholarship of up to $2,000, in memory of Marvin Boren and Elvira Lowe Smith, is awarded to an undergraduate music major. It is renewable as long as the recipient continues to study the organ and maintains satisfactory progress.

The Larry and Violet H. Turner Scholarships. Established by a gift of Larry Turner, class of 1935, these scholarships are given to undergraduates demonstrating outstanding ability on a string instrument. Although recipients need not major in music, they are required to study privately and to participate as members of the Duke Symphony Orchestra. The scholarships cover fees for private instruction.

The Julia Wilkinson Mueller Prize for Excellence in Music. An award of $300 will be presented to a graduating senior for achievement in musical performance.

The Guido Mazzoni Award in Italian. This award is given each year to an outstanding Italian major in honor of Guido Mazzoni (1859-1943), Italian patriot, military hero, Professor of Italian, and member of the Italian parliament.


*The William M. Blackburn Scholarship. This fund was established in 1962 to honor William Blackburn, distinguished teacher of writing at Duke. The scholarship, awarded by the Department of English, recognizes outstanding achievement in the field of creative writing.

Stanley E. Fish Award for Outstanding Work in British Literature. This award, given by the Department of English, recognizes outstanding work by an undergraduate enrolled in an English course in British Literature.

The Anne Flexner Memorial Award for Creative Writing. This award was established by the family and friends of Anne Flexner, who graduated from Duke in 1945. Open to all Duke undergraduates, the competition for prose fiction (5,000-word limit) and poetry (200-line limit) is sponsored in the spring semester by the Department of English.

Barbara Herrnstein Smith Award for Outstanding Work in Literary Theory or Criticism. This award, given by the Department of English, recognizes outstanding work by an undergraduate enrolled in an English course in literary theory or criticism.

*The Margaret Rose Knight Sanford Scholarship. This fund was established in recognition of the untiring efforts of Margaret Rose Knight Sanford on behalf of Duke University. The scholarship is awarded to a female student who demonstrates particular promise in creative writing. Awards are made by the Department of English.

*The Francis Pemberton Scholarship. This award was created by the trustees of the Mary Duke Biddle Foundation in memory and in honor of Francis Pemberton’s service to the Biddle Foundation. The scholarship is awarded by the Department of English to a junior or senior pursuing the study of creative writing.

The Terry Welby Tyler, Jr. Award for Creative Writing. This award was established by the family of Terry Welby Tyler, Jr., who would have graduated with the class of 1997, to recognize and honor outstanding undergraduate poetry. Open to all Duke undergraduates, the competition is sponsored by the Department of English.

Margot Hill Support Grants. The Hill Support Grants set aside funds to assist undergraduate students in taking advantage of opportunities that might arise during the academic year, such as attending workshops, conferences, and retreats. Students may apply for these grants by providing Professor Deborah Pope with a statement of how the grant is to be used. More than one student may apply for the same event. This will be available on a rolling basis.

Schutte Senior Writing Award. This cash award, named in honor of Margot Hill’s (Duke ’04) high school English teacher, is intended to recognize the whole of a student’s creative achievements during his or her time at Duke. It is given to a graduating senior of superior writing ability who contributes greatly to the wider writing community on campus. Nomination of candidates are made by members of the English department writing faculty, and selection is made by the English Department. Should no candidate meet the standards of the award in a given year, no award will be made.

Award for Most Original Honors Thesis. This award is given by the Department of English for the most original honors thesis.

Louis J. Budd Award for Outstanding Work in American Literature. This award, given by the Department of English, recognizes outstanding work by an undergraduate enrolled in an English course in American Literature.

Critical Essay Contest. This award is given by the Department of English. Open to all Duke undergraduates. See English website for rules: http://english.duke.edu/undergraduate/contests/criticalessay
SOCIAL SCIENCES

The Winfred Quinton Holton Awards in Education. These awards were established in 1922 by gifts of Holland Holton, Class of 1907, and Lela Young Holton, Class of 1907, in memory of their son, Winfred Quinton Holton, with the income to be used for work and projects involving education. Three Holton awards are given for investigative education research, curriculum development work, or innovative projects in education-related fields. Decisions are made by faculty in the Program in Education.

The William T. Laprade Prize in History. This prize is offered in honor of William T. Laprade, who was a member of the Department of History at Trinity College and Duke University from 1909 to 1953 and chair of the department from 1938 to 1952. It is awarded to a senior who is graduating with distinction and whose senior thesis in history has been judged to be unusually meritorious.

Robert S. Rankin Political Science Awards:

Award in American Government and Constitutional Law. An award to the outstanding student in the field of American government and constitutional law. A monetary prize is donated by a former student of Professor Rankin’s, Judge Jerry B. Stone, A.B. ‘44, J.D. ’48.

Award in American National, State, and Local Governments. An award to the outstanding student in the field of American national and/or state and/or local governments. A monetary prize is also donated by Judge Stone.

American Government Award for Leadership and Academic Achievement. One or more awards have been donated by Robert H. Connery, Professor Emeritus of Public Law and Government at Columbia University and from 1949-65 a colleague of Professor Rankin when both were members of the Duke faculty, and by a group of Professor Rankin’s former students. These monetary awards are given to students, chosen by the Department of Political Science, who have demonstrated excellence in the study of American government and whose past achievements and future promise manifests not only high intellectual attainments, but also an exemplary leadership role in service to Duke University or to the community as broadly defined.

Alona E. Evans Prize in International Law. An annual award to an undergraduate and/or graduate student in arts and sciences whose paper(s) on international law reflect(s) excellence in scholarship. Funds for the award are derived from income earned on the generous bequest of Professor Alona E. Evans, A.B. ’40, Ph.D. (political science) ’45.

Ole R. Holsti Award in American Foreign Policy and International Relations. An award to honor the best undergraduate written work in the area of American foreign policy and international relations. Ole R. Holsti, Professor Emeritus of Political Science, taught at Duke from 1974-1998. Funds for the award are derived from gifts from the international relations faculty in the Department of Political Science, Duke University.

Elizabeth G. Verville Award. An annual award to the undergraduate who submits the best paper in the subject matter of political science. Funds for the award are derived from a gift donated by Elizabeth G. Verville, a political science major, A.B. ’61.

The Marguerite (Mimi) Voorhees Kraemer Award. This annual award was created by the family and friends of Mimi Voorhees, a public policy studies major, class of 1979. It recognizes one or more PPS students who have demonstrated strong leadership qualities and a commitment to public service. This award is given to qualifying juniors as a scholarship to help defray the costs of participating in the summer internship program.

The Joel Fleishman Distinguished Scholar Award. This award is presented annually by the Sanford School of Public Policy, recognizing the graduating major with the highest academic achievement in public policy.

The Melcher Family Award for Excellence in Journalism. This $500 award is presented annually by the DeWitt Wallace Center for Media and Democracy for the best journalistic work produced by an undergraduate student at Duke University. The award was created by Richard A. Melcher (’74), a former writer for THE CHRONICLE, to support excellence in student journalism. The deadline for article submissions is June 1.

The Terry Sanford Departmental Award. This award is presented annually by the Sanford School of Public Policy to the graduating major recognizing his/her achievement in leadership.

The Karl E. Zener Award for Outstanding Performance of a Major in Psychology. Psychology students submitting outstanding theses for Graduation for Distinction may be nominated for the Karl E. Zener Award. A committee of three faculty members along with the director of undergraduate studies determines the winner of this award. The award is based on the student’s total academic record as well as the paper submitted to the award committee. This award consists of a monetary prize and inclusion by name on a memorial plaque in Zener Auditorium.

NATURAL SCIENCES AND MATHEMATICS

The Edward C. Horn Memorial Prize for Excellence in Biology. Given each year to a graduating biology major who has shown, in the opinion of the biology faculty, the highest level of academic achievement and promise, this prize is offered in memory of Professor Edward C. Horn. It is a tribute to his warm regard for students and faculty and his appreciation of scholarly excellence. The prize consists of books appropriate to the student's field of interest.

The Excellence in Plant Science Prize. Given each year by the plant science faculty to a graduating biology major who has demonstrated excellence in botanical research. The prize consists of books appropriate to the student's field of interest.
The James B. Rast Memorial Award in Organismal Biology. The parents and friends of James Brailsford Rast, a member of the Class of 1958 of Duke University, endowed this award in his memory. This award is given each year by the biology faculty in recognition of excellence in course work and research in the study of organismal biology.

The Maggie Schneider Award in Marine Biology. In memory of Maggie Schneider, a member of the Duke class of 2004, this award is given each year by the faculty of the Duke University Marine Laboratory to the biology major who demonstrates the love of learning and service in marine and conservation biology.

American Chemical Society Undergraduate Award in Analytical Chemistry. This prize is given annually by the Analytical Division of the American Chemical Society to an undergraduate student in analytical chemistry. Selection by a faculty committee is based on academic excellence and laboratory proficiency. The prize is a subscription to the journal, "Analytical Chemistry," published by the American Chemical Society.

The Chemistry Department Award. This prize is awarded annually to an outstanding senior chemistry major in the Bachelor of Science degree program. Selection by a faculty committee is based on the student's independent research and interest in pursuing graduate study in chemistry. The award is a one-year membership in the American Chemical Society and a one-year subscription to an appropriate journal.

The Merck Index Award. This prize is awarded annually to one or more graduating chemistry majors intending to pursue a career in medicine. Selection by a faculty committee is based on scholastic excellence. The prize consists of a copy of the "Merck Index" presented by Merck and Co., Inc.

The Hypercube Scholar Award. This prize is awarded annually to an outstanding senior chemistry major in the Bachelor of Science degree program. Selection by a faculty committee is based on the student's scholastic achievement, performance in independent study, and interest in pursuing advanced work in a field of chemistry that utilizes molecular modeling extensively. The prize consists of a molecular modeling computer software package presented by Hypercube, Inc.

Thomas V. Laska Memorial Award. Awarded annually by the Division of Earth and Ocean Sciences to a graduating senior in recognition of most outstanding achievement and promise for future success in the earth and ocean sciences. The recipient receives a gift and his/her name is engraved, with those of past recipients, on a granite tablet located in the divisional office. The award is sponsored by Andrew J. and Vera Laska in memory of their son, Thomas Vaclav Laska.

The Sara LaBoskey Award. Awarded annually to a graduating senior in Environmental Science and Policy in recognition of personal integrity and academic excellence. The award was established by Peter and Vicki LaBoskey, in memory of their daughter, Sara Laboskey.

The Julia Dale Prize in Mathematics. This award was established in 1938 by friends and relatives of Julia Dale, an assistant professor of mathematics at Duke University who died early in her career. The annual cash award is given through the Department of Mathematics to one or more undergraduate students in recognition of excellence in mathematics.

Karl Menger Award. This award was established in 1989 by relatives of the distinguished twentieth-century mathematician Karl Menger. The annual cash award is given through the Department of Mathematics in recognition of outstanding performance in mathematical competitions.

ENGINEERING

The Walter J. Seeley Scholastic Award. This award is presented annually by the Engineers' Student Government to that member of the graduating class of the school who has achieved the highest scholastic average in all subjects, and who has shown diligence in pursuit of an engineering education. The award was initiated to honor the spirit of academic excellence and professional diligence demonstrated by the late Dean Emeritus Walter J. Seeley. It is hoped that this award will serve as a symbol of the man and the ideals for which he stood. The name of the recipient is inscribed on a plaque displayed in the Engineering Building.

The American Society of Civil Engineers Prize. The prize is awarded annually by the North Carolina Chapter of the American Society of Civil Engineers to two outstanding civil engineering seniors, upon recommendation of the faculty of the civil engineering department. The basis for selection is the student's scholastic record, contribution to the student chapter, and participation in other college activities and organizations. The prize consists of a certificate of award and the payment of one year's dues in the American Society of Civil Engineers.

The George Sherrerd III Memorial Award in Electrical Engineering. This award is presented annually to the senior in electrical engineering who, in the opinion of the electrical engineering faculty, has attained the highest level of scholastic achievement in all subjects and has rendered significant service to the Pratt School of Engineering and the university at large. The award was established in 1958 by the parents of George Sherrerd III, a graduate of the Class of 1955, to recognize outstanding undergraduate scholarship. Recipients receive a monetary award, and their names are inscribed on a plaque displayed in the Engineering Building.

The Charles Ernest Seager Memorial Award. This award recognizes outstanding achievement in the annual Student Prize Paper Contest of the Duke branch of the Institute of Electrical and Electronics Engineers or significant contributions to
electrical engineering. The award, established in 1958 by the widow and friends of Charles Ernest Seager, a graduate of the Class of 1955, consists of inscribing the name of the contest winner on a plaque displayed in the Engineering Building.

The Milnlow Prize. This prize is awarded annually to students from North or South Carolina graduating in the Department of Electrical Engineering, who, in the opinion of the faculty of that department, and, as shown by their grades, have made the most progress in electrical engineering during the last year in school. The prize consists of a certificate of award and one year's payment of dues in the Institute of Electrical and Electronics Engineers for the membership year in which the honoree is awarded the baccalaureate degree.

The Raymond C. Gaugler Award in Materials Science and Engineering. This award is presented annually to the senior who has made the most progress at Duke in developing competence in materials science or materials engineering. The basis for selection is the student's scholastic record, research, or design projects completed at Duke, and interest in a materials-related career. The award has been established by Patricia S. Pearsall in memory of her grandfather, Raymond C. Gaugler, who was president of the American Cyanamid Company prior to his death in 1952.

The American Society of Mechanical Engineers Award. This award is presented annually to a senior in mechanical engineering for outstanding efforts and accomplishments in behalf of the American Society of Mechanical Engineers Student Section at Duke. The award consists of a certificate of recognition.

The School of Engineering Student Service Award. This award, established in 1978, is given to those graduating seniors who, by their contributions of time, effort, and spirit, have significantly benefited the community of the Pratt School of Engineering. The names of the recipients are inscribed on a plaque displayed in the Engineering Building.

The T.C. Heyward Scholarship Award. This award is presented annually to an outstanding senior in mechanical engineering at Duke University. The recipient is chosen by a committee of the mechanical engineering faculty and selection is based on academic excellence, engineering ability, and leadership. The recipient receives a monetary award and his or her name is inscribed on a plaque displayed in the Engineering Building.

The William Brewster Snow Award in Environmental Engineering. This award is presented to an outstanding senior in civil engineering who, through superior academic achievement and extracurricular activities, has demonstrated interest and commitment to environmental engineering as a career. Selection of the recipient is made by the civil engineering faculty. The recipient is presented with an inscribed plaque and his or her name is also inscribed on a plaque permanently displayed in the Engineering Building.

The Otto Meier, Jr. Tau Beta Pi Award. This award was established in recognition of Dr. Meier's leadership in establishing the North Carolina Gamma Chapter in 1948 and his continuous service as chapter advisor until 1975. This award is given annually to the graduating Tau Beta Pi member who symbolizes best the distinguished scholarship and exemplary character required for membership. The name of the recipient is inscribed on a plaque displayed in the Engineering Building.

The da Vinci Award. This award is presented by a faculty committee of the Department of Biomedical Engineering to the biomedical engineering senior with the most outstanding academic record. This award commemorates the contributions of Leonardo da Vinci in laying the foundations for the study of biomechanics.

The von Helmholtz Award. This award is presented by a faculty committee of the Department of Biomedical Engineering to the biomedical engineering senior who has made the most outstanding contribution to the department. This award commemorates the work of von Helmholtz in laying the foundations of biomedical engineering.

Aubrey E. Palmer Award. This award, established in 1980, is presented annually by the faculty of the Department of Civil and Environmental Engineering to a civil engineering senior in recognition of outstanding academic achievement. The award consists of a certificate of recognition and the name of the recipient inscribed on a plaque displayed in the Engineering Building.

The Mechanical Engineering and Materials Science Faculty Award. This award is presented annually in recognition of academic excellence to the graduating mechanical engineering senior who has attained the highest level of scholastic achievement in all subjects. The name of the recipient is inscribed on a plaque displayed in the Engineering Building.

The Eric I. Pas Award. This award, established in 1998 in memory of Dr. Eric Pas, former Director of Undergraduate Studies in Civil and Environmental Engineering, is presented to the graduating civil engineering senior judged by the faculty of the Department to have conducted the most outstanding independent study project.

The Charles R. Vail Award. This award recognizes the most outstanding undergraduate student teaching assistant in the Department of Electrical and Computer Engineering.

GENERAL EXCELLENCE WITH SPECIAL INTERESTS

The Janet B. Chiang Grants. These grants support student projects with the goal of furthering Asian/American understanding (qualifying projects include the development and teaching of house courses, travel grants to educational conferences, stipends for independent research or need-based grants to study in Asia).

The Sirena WuDunn Memorial Scholarship Fund. This fund was created by the family and friends of Sirena WuDunn. Awards are made annually to students who best embody Sirena’s ideals and interests and who have demonstrated academic excellence and interest in East-West cultures.
The Raymond D. Lublin, M.D. Premedical Award. This award to an outstanding graduating senior who will be attending medical school and who has excelled in both science and non-science areas of the curriculum was established in the name of an honored physician and surgeon by his wife, Mrs. Raymond D.Lublin.

Chester P. Middlesworth Awards. These awards were established to encourage and recognize excellence in research and writing by Duke students in their use of primary source materials held by the Rare Book, Manuscript, and Special Collections Library. Two cash awards are made annually to undergraduates through the Rare Book, Manuscript, and Special Collections Library which is housed within Perkins Library.

SPORTS

Kevin Deford Gorter Memorial Endowment Fund. This fund was created by the family of Kevin Deford Gorter to assist, promote, and expand the Sport Clubs program at Duke University. An award is made annually to the student who has made the greatest contribution to the program and best exemplifies the purposes of Sport Clubs at Duke University.

The William Senhauser Prize. Given by the mother of William Senhauser in memory of her son, a member of the Class of 1942, who gave his life in the Pacific theater of war on August 4, 1944. This award is made annually to the student in Trinity College of Arts and Sciences or the Pratt School of Engineering who has made the greatest contribution to the university through participation and leadership in intramural sports.

Notification of Intention to Graduate

The Diploma Form for students in Trinity College of Arts and Sciences and the Pratt School of Engineering is official notification that they expect to have completed all requirements for the degree and to receive the diploma on a particular graduation date. They will be confirmed for that specific graduation if basic requirements, i.e. general education and one major, have been completed. Students wishing to change expected graduation terms in order to complete additional requirements for second majors, minors, or certificates, must notify their academic deans by the end of the final exam period. It is the responsibility of students to submit the form on or before established deadlines. For students in Trinity College and Pratt School of Engineering, information regarding the location and date of availability of the online diploma form is sent to prospective graduates at their Duke e-mail address.

Graduation and Commencement

Commencement exercises are held once a year in May when degrees are conferred upon and diplomas are issued to those who have completed degree requirements by the end of the spring term. Those who complete the requirements by the end of the summer term or by the end of the fall term receive diplomas dated September 1 or December 30, respectively. Students who are within four course credits of graduation at the end of the spring term may request to participate in the annual commencement exercises. The request must be made in writing and submitted to their academic dean by February 3.

Education Records

Duke University adheres to a policy permitting students access to their education records and certain confidential financial information. Students may request review of any information which is contained in their education records and may, using appropriate procedures, challenge the content of these records. An explanation of the complete policy on education records may be obtained from the Office of the University Registrar.

No information, except directory information (see below) and notices about academic progress to parents and guardians, contained in any student records is released to unauthorized persons outside the university or to unauthorized persons on the campus, without the written consent of the student. It is the responsibility of the student to provide the Office of the University Registrar and other university offices, as appropriate, with the necessary specific authorization and consent.

Directory information includes name, addresses, e-mail addresses, telephone listing, photograph, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and most recent previous educational institution attended. This information may be released to appear in public documents and may otherwise be disclosed without student consent unless a written request not to release this information is filed in the Office of the University Registrar.
The Provision of Academic Information to Parents and Guardians

Duke University complies with the policies set forth in the Family Educational Rights and Privacy act of 1974 concerning confidentiality, privacy, and release of information as they pertain to students' educational records. It is primarily the responsibility of students to keep parents and guardians informed of their academic standing and progress as well as any difficulties which may affect their performance. The Office of the University Registrar does not release end of term or midterm grade information to parents and guardians without students’ written permission. If a student’s academic standing at the university changes, the Office of the Dean may notify parents and guardians in writing. Parents and guardians may also be alerted to emergency and extraordinary situations which may impinge upon a student's well being.

Procedure for Resolution of Students’ Academic Concerns

Trinity College provides formal educational opportunities for its students under the assumption that successful transmission and accumulation of knowledge and intellectual understanding depend on the mutual efforts of teachers and students. Ideally, the college offers a range of learning experiences in which students strive to learn enough to be able to test their ideas against those of the faculty, and faculty, through the preparation of course materials and the freshness of view of their students, discover nuances in their disciplines.

Sometimes, however, student-faculty interrelationships in certain courses give rise to concerns that, for whatever reason, can inhibit successful teaching and learning. When this occurs, students often need assistance in resolving the issues.

The faculty and administration of Trinity College attempt to be genuinely responsive to all such matters and a student should not hesitate to seek assistance from faculty and administrative officers in resolving problems.

Questions about course content, an instructor’s methods of presentation, the level of discourse, criteria for evaluation of students, or administrative procedures in a course should be directed to the instructor of the course. (See the following section, Undergraduate Grade Review Procedure, when concerned about a grade.) If a student believes that productive discussion with the instructor is not possible, courtesy requires that the instructor be informed before the student refers questions about the course to the director of undergraduate studies or, in his or her absence, to the chair of the department. If a student’s concern involves a departmental policy rather than an individual course, the student should first confer with the director of undergraduate studies in the department. A list of the names, addresses, and telephone numbers of the various directors of undergraduate studies can be found in the University Directory. Staff members in the department offices can assist in arranging appointments with the directors. When necessary, directors of undergraduate studies may refer students to the department chair.

Students in doubt about how to proceed in discussing a particular problem, or who seeks resolution of a problem, is encouraged to confer with their academic dean in Trinity College or Pratt School of Engineering.

In those exceptional cases where a problem remains unresolved through informal discussion, a formal procedure of appeal to the Senior Associate Dean of Trinity College or the Senior Associate Dean for Education in the Pratt School of Engineering is available. A student may initiate this more formal appeal procedure by bringing his or her problems with assurance of confidentiality, if requested, to the attention of the Senior Associate Dean of Trinity College or the Senior Associate Dean for Education in the Pratt School of Engineering, who will request information about the nature of the issue and about the earlier efforts made to deal with it. If the problem concerns a specific course, it should be directed to the appropriate senior associate dean in the college or school in which the course is taught.

Undergraduate Grade Review Procedure

A student who questions a final grade received in a course should first discuss the matter with the instructor within thirty days of receiving the grade. After meeting with the instructor, if the student still believes the instructor has assigned an inaccurate or unjustified grade, the student should discuss the matter with the director of undergraduate studies in the department or program concerned. If no satisfactory resolution is reached, the
Exclusion of Disruptive Students from a Course

The successful conduct of courses depends upon a basic spirit of mutual respect and cooperation among the participants. If a student disrupts a class, in such a way that it seriously compromises the educational experience of the course for other students and/or prevents the instructor from accomplishing the goals of the course as outlined in the syllabus, the instructor may ask the student to leave the class meeting.

Afterward, it is expected that the instructor and the student will meet to discuss and prepare in writing the conditions under which the student may return to the course. If the disruptive behavior continues, the instructor may report the matter to the student’s academic dean. The academic dean will investigate the matter to determine whether the student should be referred to the Office of Student Conduct (formerly Office of Judicial Affairs) for consideration of formal charges of violation of university policies including “Classroom Disruption,” “Disorderly Conduct,” and/or “Failure to Comply.” If “probable cause” resulting in further judicial action is not found, the matter is to be referred to the student’s academic dean who will make a decision concerning the status of the student in the course.

If the student or the faculty member wishes to appeal the decision of the academic dean, an appeal is to be directed to the Senior Associate Dean of Trinity College, the academic appellate officer for the College. The decision of the senior associate dean in such a case is final. If the student is permanently excluded from the course, a notation of W will be recorded on the student’s academic record.

Compliance with Academic Regulations

Under no circumstances may students ignore official rules and requirements, as this is a breach of the Duke Community Standard and a “failure to comply” as described in the The Duke Community Standard in Practice: A Guide for Undergraduates. Students who ignore official rules and requirements will at the least have their registration for the next academic semester blocked by their academic dean until after the close of the last window of that registration period. They could also be subject to involuntary withdrawal for a period of two semesters and/or referred to the Undergraduate Student Conduct Board for possible disciplinary action.
Special Study Centers, Programs, and Opportunities
Campus Centers and Institutes

INTERNATIONAL AND AREA STUDIES PROGRAMS

Duke University Center for International Studies (DUCIS). Located in the John Hope Franklin Center for Interdisciplinary and International Studies, DUCIS supports a wide range of global thematic activities, many of which are open to undergraduates. The Center has an annual competition for undergraduate summer research grants and beginning in 2010 is offering support for studying less commonly taught languages. An important component of DUCIS’s work is funding faculty to develop new international courses from global health to global baseball. DUCIS also supports instruction in less-commonly taught languages such as Turkish and Persian/Farsi.

Every four years, DUCIS revises its global thematic focus. Current topics through 2014 are globalization and equity; climate change; global health; documentary studies; and globalization, science and technology. Many of these themes are connected to seminars that meet every two to three weeks.

It is an established goal of DUCIS to insure that our faculty and students have access to leading scholars and government officials from around the world. It does this through a range of activities from single lectures to semester-long visiting appointments. DUCIS regularly hosts a Diplomat in Residence from the U.S. Department of State who advises students seeking careers in the foreign service.

In addition, DUCIS sponsors a wide range of campus activities including film series, art exhibitions, readings, and performances. Especially for undergraduates, DUCIS organizes “Late Breaking News” in collaboration with a Duke dormitory. The series hosts Duke faculty members in discussions of current international events.

Historically, DUCIS was instrumental in developing new area studies centers at Duke. In recent years, it has concentrated on creating long-term initiatives with strong interdisciplinary and interregional emphases. The global governance and global health seminars are two examples. The DUCIS global health project was one of the university initiatives that led to the founding of the Duke Global Health Institute.

In recognition of its commitment to international studies, DUCIS has been designated a Comprehensive National Resource Center for International Studies by the U.S. Department of Education. It is also the recipient of numerous grants from other federal agencies and private foundations.
Asian/Pacific Studies. The Asian/Pacific Studies Institute supports and encourages the study of Asian societies within the Pacific region, with emphasis on China, Japan, and Korea. Courses offered cover a range of disciplines including Chinese, Japanese, and Korean (language and literature), art history, business, cultural anthropology, history, law, political science, psychology, religion, and sociology. The institute provides support for visiting speakers and conferences, library resources and research clusters. Scholarships and fellowships, including FLAS fellowships, are available annually. Study abroad opportunities are available in China (Duke credit) and Japan (transfer credit). Majors are available at the undergraduate level through the International Comparative Studies program (East Asian concentration) or through the Department of Asian and Middle Eastern Studies. The Asian/Pacific Studies Institute offers a certificate for East Asian Studies both at the undergraduate and graduate levels, and also a Master of Arts in East Asian Studies.

Center for Canadian Studies. The Center for Canadian Studies administers the Canadian Studies Program, which offers courses introducing students to various aspects of Canadian life and culture. Courses and lectures in a wide range of disciplines in the humanities and the social sciences are designed to increase students’ knowledge and understanding of Canada. Special emphasis is placed on current issues in North America such as energy, trade, and security. Concentrations in Canadian studies are described in the chapter “Courses and Academic Programs,” under “Canadian Studies (CANADIAN)”. Study abroad opportunities are available.

Center for Latin American and Caribbean Studies. The Center coordinates undergraduate and graduate education in Latin American and Caribbean Studies and promotes research and dissemination of knowledge about the region. CLACS offers an interdisciplinary undergraduate certificate in Latin American Studies, which students can earn in conjunction with their bachelor’s degree. Additional information about this certificate program can be found in the chapter "Courses and Academic Programs." Faculty associated with the center offer a wide range of courses in the humanities, social sciences, environmental sciences, Portuguese, Spanish, French, and Haitian Kreyol. The center also sponsors visiting professors from Latin America, a speakers series, conferences, summer travel grants, and DukeEngage programs throughout the region. In addition, CLACS and the Institute for the Study of the Americas at the University of North Carolina-Chapel Hill sponsor the Consortium in Latin American Studies that includes occasional exchanges of faculty members from each institution and joint undergraduate and graduate student working groups as well as the annual Latin American Film Festival and consortium conference. For more information consult the Assistant Director at Room 138 Franklin Center, Box 90254, Durham, NC 27708-0254; telephone (919) 681-3981; e-mail: las@duke.edu; Web site: http://clacs.aas.duke.edu/.

Center for Slavic, Eurasian, and East European Studies. With the support of the U.S. Department of Education, this joint Duke-University of North Carolina Center coordinates interdisciplinary efforts primarily in the fields of Russian (including Soviet) and East European history, economics, political science, literature, linguistics and language training. Language instruction in Russian, Polish, and Ukrainian is available. The committee also sponsors visiting lectures, conferences, symposia, and films.

Center for European Studies. Faculty associated with the Duke-University of North Carolina Center for European Studies promote comparative research, graduate training, and teaching activities concerned with historical and contemporary European issues. Funded in part by the U.S. Department of Education, this program regularly sponsors campus-wide events, such as conferences on contemporary trends in European politics and society and recent developments in the European Union. It also supports faculty-student working groups, curriculum development, and library materials acquisition. A West Europe concentration is available for International Comparative Studies majors.

CENTER FOR DOCUMENTARY STUDIES
The Center for Documentary Studies (CDS) at Duke University offers an interdisciplinary program in the documentary arts—photography, audio, film/video, narrative writing, and other means of creative expression—that emphasizes active engagement in the world beyond the university campus. Much more than a traditional educational center, CDS encourages experiential learning in diverse environments outside the classroom, with an emphasis on the role of individual artistic expression in advancing broader societal goals.
Programs range widely to include university undergraduate courses, popular summer institutes that attract students from across the country, international awards competitions, award-winning book publishing and radio programming, exhibitions of new and established artists in our own galleries, nationally recognized training for community youth and adults, and fieldwork projects in the U.S. and abroad.

At CDS students from any discipline may choose between the Certificate in Documentary Studies program, which requires completion of six courses and a major documentary project, or a variety of individual courses. In seminar-style courses, students merge theory and practice in the making of original documentary work: artistic fieldwork projects capturing the compelling stories of contemporary life. Many of these projects, presented locally at CDS and in other settings, enjoy recognition in larger arenas—at film festivals, on public radio, and in off-site galleries. In addition, CDS provides darkrooms, multimedia labs, screening rooms, and galleries for the creation and presentation of student work in conjunction with lectures and workshops involving prominent contemporary photographers, filmmakers, and other documentarians.

The program’s instructors include faculty members, visiting artists, and practicing professionals in the field. As part of its undergraduate program, CDS created and hosts the Lehman Brady Visiting Joint Chair Professorship in Documentary Studies and American Studies at Duke and the University of North Carolina at Chapel Hill, which brings distinguished documentarians to teach on both campuses each year.

CDS also offers a variety of internship, fellowship, and volunteer opportunities, including the John Hope Franklin Student Documentary Awards (competitive grants available to undergraduates for conducting summer documentary fieldwork projects), the Lewis Hine Documentary Fellows Program (placing postgraduate Fellows for ten months with nonprofit organizations), Documentary Arts Institutes, and the Full Frame Documentary Film Festival Student Fellows program.

For more information, check the Web site at: http://cds.aas.duke.edu/ or contact the Education Director, Center for Documentary Studies, 1317 W. Pettigrew Street, Durham, NC 27705; telephone (919) 660-3663.

DEWITT WALLACE CENTER FOR MEDIA AND DEMOCRACY

The DeWitt Wallace Center for Media and Democracy in the Sanford School of Public Policy focuses on the study of communications, mass media, and journalism as they relate to a globalized and interconnected world. The center administers the Policy Journalism and Media Studies Certificate. The center’s approach to education emphasizes the analysis of issues relating to media and democracy. It also offers courses in effective media writing and production. Undergraduates interested in this field of study register for courses through the Department of Public Policy. Students enrolled in the certificate program gain a thorough understanding of the press in the policy-making process and engage in courses and internships to learn about the practice of journalism, while mastering the broader background of studies in public policy, politics, economics, history, and other liberal arts. Through the center, students have the opportunity to study with leading research scholars, practicing journalists and commentators, and media pioneers. In addition, the center sponsors the undergraduate Melcher Family Award for Excellence in Journalism. For further information about the center or the certificate, visit: www.dewitt.Sanford.duke.edu or e-mail shelley.stonecipher@duke.edu. See also the sections on the certificate program and on Public Policy on page 534 in the chapter “Courses and Academic Programs.”

DUKEENGAGE

DukeEngage is a program for undergraduates who want to pursue a summer of intensive field-based work that contributes to the public good. Duke provides funding and administrative support to eligible students who want to address societal issues locally, nationally, or abroad. Students tackle real-world problems and develop valuable skills and self-knowledge that result from an immersive service experience.

DukeEngage includes three different types of learning opportunities:
- those that are sponsored and organized by Duke;
- those that Duke coordinates with outside providers that specialize in organizing student internships or volunteer work in the U.S. and/or abroad;
- those that are initiated by students through grant proposals.

For more information, visit http://dukeengage.duke.edu/.
THE DUKE CENTER FOR CIVIC ENGAGEMENT

The Duke Center for Civic Engagement (DCCE) creates, sustains, and exemplifies an ethos of civic engagement at Duke by connecting university education to public service, promoting reflection on the values of civic engagement, and cultivating synergy among Duke’s diverse efforts to make the world a more equitable place.

Mission

The DCCE seeks to create an ethos of civic engagement at Duke by:

• Conceptualizing and implementing initiatives that bring together various civic engagement efforts across the university;
• Strengthening efforts to creatively connect academic learning to civic engagement;
• Designing and presenting interdisciplinary programs that deepen awareness about civic engagement and approaches to it;
• Providing a centralized pathways to students integrating courses, internships, volunteer activities and other resources.

DCCE enhances the curricular experience and civic awareness of Duke students through various means and programs: Civic Engagement Knowledge Maps help students construct curricular and co-curricular linkages around specific global challenges. Organized around themes such as child labor, health, youth education, poverty, or any other civic challenge, the Knowledge Maps suggest courses, programs, and resources from across a variety of disciplines and immersive projects relevant to that theme.

1. Civic Summer Research Fellowships support selected Duke undergraduate students who wish to translate and deepen their prior civic engagement experience into research projects or research-enriched practice directed toward civic challenges anywhere in the world. Civic Engagement Studios bring together faculty, students, staff, and non-Duke community partners in small interdisciplinary groups to collaboratively study a civic challenge over an academic year.

Civic Forums, the Duke civicXchange, and Civic Thursdays are active intellectual venues for civically-minded members of the Duke community seeking to participate in debates and discussions on issues relating to civic engagement. These venues also present opportunities for participants to make collaborative social change partnerships.

Vision

Programs and initiatives at the DCCE cohere around four central values that pertain to all civic engagement: Learn, Collaborate, Reflect, and Transform.

In the Center's vision, a civic sensibility recognizes that:

• An informed and imaginative understanding of the world's inequities is a civic responsibility;
• For change to be effective, it has to be democratically-determined and infused with a collaborative spirit;
• Adaptability and the ability to see the world in creative, plural and interrelated ways empower civic engagement;
• Transformative engagement is ultimately sustained by cultivating civility, humility, and empathy in everyday practices
• The essence of civic engagement is Co-Being—acting in a way that reflects the understanding that we live along with others and with other forms of life and are aware that the individual thrives only when the collective thrives.

The DCCE actively seeks, welcomes, and builds on the participation of all members of Duke—faculty, undergraduate and graduate students, other researchers, staff, alumni—and partners outside Duke-in our efforts to promote civic engagement.

For more information, please see: http://dcce.civic.duke.edu/.
ACADEMIC RESOURCE CENTER

The Academic Resource Center (ARC) is composed of three programs—the Academic Skills Instructional Program, the Peer Tutoring Program, and the Program for Students with Learning Disabilities and ADHD. The ARC was established in 1984 to offer learning assessment services and academic support to all undergraduate students. The staff consists of professionals from a wide range of disciplines who are dedicated to enhancing the academic lives of the students they serve. Services are designed to assist students in their course work and to help them to develop the broad academic skills necessary for success. All services are offered without additional university fees and carry no course credit.

The Academic Skills Instructional Program (ASIP). Students may arrange one-on-one college study skills conferences with an ASIP learning specialist. Students are encouraged to gain a greater understanding of their strengths and weaknesses and to develop strategies useful in managing the large amount of reading, writing, and problem-solving they are expected to accomplish at Duke. Areas to be explored may include time-task management, reading efficiency, note-taking, test-preparation, and test-taking. ASIP also offers special academic programs throughout the semester. Students should call the Academic Resource Center to schedule an individual appointment or for more information about special programming.

The Peer Tutoring Program (PTP) provides free peer tutoring in introductory-level mathematics, chemistry, physics, biology, economics, computer science, engineering, and languages. Walk-in tutoring services are also available for select courses.

Services for Students with Learning Disabilities and ADHD. Duke University, through the Academic Resource Center, offers academic interventions to undergraduate students with diagnosed learning disabilities and attention deficit disorders. The clinical director reviews a student’s clinical documentation and evaluates the need for interventions and support within the context of the Duke undergraduate curriculum. Academic interventions and support services include, but are not limited to, the following: testing interventions, classroom interventions, classroom support, and one-on-one academic support via the ASIP.

Students who wish to be evaluated for eligibility for academic interventions and/or support services may submit clinical assessment documentation directly to the Academic Resource Center or request that any party in possession of the documentation forward the materials to the ARC on their behalf. Submissions should be addressed to the Clinical Director. For more information, call the ARC at (919) 684-5917.

CONTINUING STUDIES

Academic Study. Local adult residents are encouraged to pursue academic study at Duke (1) as potential degree candidates, for those who have not been full-time college students for at least four years and are now resuming or beginning a bachelor's degree; (2) as non-degree students, for those with baccalaureates who now seek a sequence of undergraduate credit courses; and (3) as students completing the last year of work towards a degree at another institution. These students are given academic counseling by the Office of Continuing Studies and Summer Session and are subject to most of the regulations set forth for degree candidates. Applications may be obtained from the Office of Continuing Studies (the Bishop’s House on East Campus or (919) 684-2621) and must be returned to that office, accompanied by a $35 application fee, by August 1 for the fall semester, December 1 for the spring semester, April 15 for Term I of Summer Session, and June 1 for Term II of Summer Session.

Certificate Programs. Professional certificate programs offered include human resource management, management accounting, internal auditing, technical communications, paralegal studies, financial planning, internal auditing, and legal nurse consulting.

Nonprofit Management Program. Students interested in the nonprofit sector or in community development are invited to explore the noncredit course offerings of this program. Taught by experts and practitioners, these short courses offer instruction concerning financial and resource management, management of personnel and volunteers, leadership development, fundraising, planning and evaluation, board development/governance, and media relations.
Osher Lifelong Learning Institute (OLLI) at Duke. OLLI at Duke began in 1977 as the Duke Institute for Learning in Retirement. Since 2004 the membership organization has been a member of the Osher Lifelong Learning Network, a group of over 120 institutes across the country dedicated to meeting the needs of older learners and extending the demographic served by traditional universities. OLLI sponsors noncredit course offerings in the fall, winter, and spring as well as fall and spring retreats, language tables, reading groups, lecture series, and volunteer opportunities.

Duke Youth Programs. For over twenty years, Duke Youth Programs has offered academic enrichment opportunities for middle and high school students in the summer. Current offerings range from camps in biosciences and engineering, creative writing, theater and musical arts, science explorations for young women, academic writing and research, to constructing the college experience. Preparation courses for the SAT are scheduled in both the fall and spring.

For brochures on each program and for fuller information, write or call the Office of Continuing Studies and Summer Session, Duke University, Box 90700, Durham, NC 27708-0700; (919) 684-6259; learnmore@duke.edu; or www.learnmore.duke.edu.

Specialized Programs
THE FOCUS PROGRAM

The Focus Program offers first-year students a variety of interdisciplinary course clusters in the fall semester, each course is centered on a common theme. The Focus Program at Duke is distinct from other living/learning community programs in several respects. The primary concentration of each cluster encourages study in the social sciences, natural sciences, engineering, and humanities as well as analysis of the social, historical, economic, and political roots and problems of the topics. The broader interdisciplinary discussion courses impart a cross-disciplinary perspective to the course of study.

The Focus Program draws its offerings from courses taught by over sixty Duke University professors in twenty-nine cooperating departments and centers within two institutes and four schools. Courses have been designed specifically for the program to help place the topics chosen for specialization in a broad interdisciplinary and global perspective. Classes are small, interrelated, and mutually reinforcing; they provide opportunities for discussion and individualized research. The program is administered by a faculty director, program staff, and a faculty advisory committee representing the various clusters.

Since one of the aims of the Focus Program is to encourage the integration of academic life with residential life, participants of each cluster live in the same residence hall together with other first-year students. Focus Program participants may choose their own roommates and make other residential requests through the Residential Life and Housing Services office.

Student Schedules. The Focus Program requires participants to enroll in two seminar courses from the three or four courses offered with the assigned cluster and a half-credit discussion course. Remaining elective courses are chosen by the student according to his/her academic interests. Courses in the program satisfy the general curriculum first-year seminar requirement. Courses will also fulfill other general curriculum requirements (Areas of Knowledge and Modes of Inquiry).

Mentoring Program. The Focus Mentoring Program has a wonderful group of former Focus students who are eager to share their experiences and impressions with new students interested in the program and who serve as mentors for future FOCUS students. If you would like to be connected to a FOCUS Mentor, please let us know at: focus@duke.edu

REFOCUS. The Focus Program hosts lectures and field trips in the spring semester for former FOCUS students. Current information on these events can be found under REFOCUS on the FOCUS website (focus.duke.edu/refocus).

Current Focus Program information may be found on the program Web site: focus.duke.edu. Questions and comments may be directed to the Focus Program office, 225–227 Academic Advising Center, (919) 684-9370, fax: (919) 684-4515, e-mail: focus@duke.edu.
RESERVE OFFICER TRAINING CORPS

Duke University and the military services cooperate in offering officer education programs to provide opportunities for students to earn a commission in the United States Air Force, Army, Navy, or Marine Corps. These programs are described below, and detailed information on scholarships, entrance requirements, and commissioning requirements is available from the offices of the Department of Aerospace Studies (Air Force), the Department of Military Science (Army), and the Department of Naval Science (Navy and Marine Corps). Courses offered in these departments are described in the chapter "Courses of Instruction" in this bulletin.

The Air Force Reserve Officer Training Corps (AFROTC). AFROTC selects, trains, and commissions college men and women as officers in the U.S. Air Force. AFROTC offers anywhere from a two-year to four-year curriculum leading to a commission as a second lieutenant. The program consists of both the General Military Course (GMC), a course sequence normally taken during the freshman and sophomore years, and the Professional Officer Course (POC) taken during the junior and senior years. Entry into the POC is competitive and requires successful completion of a field-training encampment during the summer between the sophomore and junior years.

The GMC is open to freshmen and sophomores. Students who complete both the freshman and sophomore years of the program and successfully compete for entry into the POC will attend a four-week training encampment. All other successful POC applicants will attend an extended encampment. During summer breaks, cadets are given the opportunity to volunteer for advanced training in a variety of different areas.

Students may compete for various types and lengths of scholarships. These scholarships pay up to full tuition, a monthly tax-free stipend of $300-$500, and an annual book allowance. All members of the POC receive the nontaxable stipend even if not on scholarship. Upon graduation all cadets are assigned to active duty with the U.S. Air Force for a period of at least four years. Direct inquiries to the Department of Aerospace Studies, 265 Trent Building, (919) 660-1860 or visit www.duke.edu/afrotc.

The Army Reserve Officers' Training Corps (AROTC). Army ROTC provides students of strong character with an opportunity to develop themselves as scholar/athlete/leaders and earn a commission as an Army officer. Two programs are available, the three- or four-year progression program and the two-year lateral entry program.

A three- or four-year program consists of the Basic Course (freshman and sophomore years) and the Advanced Course (junior and senior years). Direct entry into the Advanced Course (a two-year program) is possible by attending a (4) week Leadership Training Course (LTC) during the summer or the successful completion of basic training. Students wishing to join the two-year program must confer with the Department of Military Science not later than March 1 of their sophomore year in order to qualify for a summer internship and two-year scholarship. There is one mandatory summer training requirement, Leadership Development and Assessment Course (LDAC), which takes place over a five-week period between the junior and senior years. All uniforms and some texts are provided.

Detailed information is available from the Department of Military Science, 06 West Duke Building, East Campus, Box 90752, (919) 660-3090, or (800) 222-9184.

The Naval Reserve Officer Training Corps (NROTC). The Department of Naval Science offers students the opportunity to become Navy and Marine Corps officers upon graduation. Selected students will receive up to four years of tuition, fees, uniforms, and textbooks at government expense under the auspices of the Scholarship Program. In addition, scholarship students receive subsistence pay and summer active duty pay of approximately $3,000 a year. Each summer they participate in four weeks of training either aboard ship or at naval shore facilities to augment their academic studies. A minimum of five years of active duty service is required upon graduation.

A two-year program is available to rising juniors and is made possible by attending a six week program at the Naval Science Institute (NSI) in Newport, Rhode Island. Students wishing to join the two-year program must meet with the Department of Naval Science no later than March 1 of their sophomore year in order to
qualify for the summer training and two-year scholarship, which covers full tuition, fees, uniforms, and textbooks.

Non-scholarship students wishing to join the NROTC Battalion may be enrolled in the College Program at any time. They take the same courses and wear the same uniforms, but attend the university at their own expense. Uniforms and Naval Science textbooks are provided by the government.

College Program students may compete for scholarship status through academic performance, demonstrated aptitude for military service, and nomination by the Professor of Naval Science. Students in either program may qualify for a commission in the United States Marine Corps through the Marine Corps Option Program.

For further information on the NROTC program, contact the Department of Naval Science, (919) 660-3700, Trent Hall, Trent Drive, Room 361 or visit: www.duke.edu/nrotc.

AGREEMENTS WITH OTHER UNIVERSITIES

Neighboring Universities. Under a plan of cooperation, the interinstitutional agreement among Duke University and the University of North Carolina at Chapel Hill, North Carolina State University at Raleigh, North Carolina Central University in Durham, the University of North Carolina at Charlotte, and the University of North Carolina at Greensboro, a student regularly enrolled in Duke University as a degree-seeking student and paying full fees may enroll for one approved course each semester at one of the institutions in the cooperative program unless an equivalent course is offered at Duke in the same academic year. Under the same conditions, one interinstitutional course per summer may be taken at a neighboring institution participating in this agreement provided that the student is concurrently enrolled at Duke for one full course credit. This agreement does not apply to contract programs such as the American Dance Festival or to study abroad programs.

Approval forms for courses to be taken at these neighboring institutions may be obtained from the offices of the academic deans and the University Registrar. Forms are also available online at the Office of the University Registrar web site, in the “students” section. Only those courses not offered at Duke will be approved. Approval must be obtained at Duke from the Director of Undergraduate Studies of the subject of the course and the student’s academic dean. Credit so earned is not defined as transfer credit since grades in courses taken under the interinstitutional agreement are entered on the official record and used in determining the grade point average. The courses may be eligible for Area of Knowledge and Modes of Inquiry coding. The student pays any special fees required of students at the host institution.

Courses taken at the University of North Carolina at Chapel Hill by Duke students in the Robertson Scholarship Program (a joint scholarship program for students at Duke and the University of North Carolina at Chapel Hill) are interinstitutional courses. However, the restriction on the number of courses and the kind of courses (i.e., those not offered at Duke) permitted does not always apply. Robertson Scholars should refer to program materials for specific regulations.

Domestic Exchange Programs. Trinity College has exchange programs with two domestic institutions: Howard University in Washington, D.C., and Spelman College in Atlanta, Georgia. Students may study for a semester at either institution, while students from these institutions enroll for the same period at Duke. Students may enroll in a wide variety of courses at either Howard University or Spelman College for which they will receive transfer credit at Duke.

Duke/Howard Exchange. Students must have completed two semesters of course work at Duke. On-campus housing will be guaranteed to students participating in the exchange program although it is not required. Application deadline is November 1 (Spring term) and April 1 (Fall term).

Duke/Spelman Exchange. Students must have completed four semesters of course work at Duke. On-campus housing will be guaranteed and is required for students participating in the exchange program. Spelman is a liberal arts women’s college. Application deadline is April 1 for both the Fall and Spring term.

For more information about these programs, visit 011 Allen.
DUKE IN D.C. - PUBLIC POLICY

Based in the nation’s capital city, the Duke in D.C. - Public Policy program provides students with the unique and exciting opportunity to live, work, and study in Washington, D.C. Students will have real-world policy experiences through a combination of coursework, independent research, small group work, an internship, interaction with Duke alumni working in the D.C. area, and a group living experience. Students will connect with leaders in public policy, government, and business and participate in a variety of cultural, professional, and social opportunities unique to Washington.

DUKE IN NEW YORK ARTS AND MEDIA PROGRAM

Duke in New York Arts and Media is a Fall program that introduces students to the exciting worlds of theatre, music, film, dance, writing, museums, galleries, publishing, television, advertising, and other media within businesses and not-for-profits. Through internships that receive Duke credit and are part of an integrated Duke program, students get to experience living and working in New York. It’s experiential learning and the opportunity to acquire a hands-on knowledge of the City. In addition to the internship, students take the “Documenting New York” seminar (ALP, R, W) and a guest speaker course, “Making Media” (ALP and STS) with Duke faculty who come with you to the City. They also take a course at NYU in areas that may cover subjects not available at Duke or satisfy some special need. The seminar explores literature and movies about the City, as well as specific sites and neighborhoods. It takes students to – and teaches them about – one to two events a week ranging from a major Broadway play to a tiny Soho dance venue, from a tour of the Museum of Modern Art to a comedy club. Students should end the program with a definite feeling for New York’s vibrant history, institutions, and representation in films and fiction. They should also develop a sense of professional life in the City, with introductions to Duke alumni and others producing the arts and creating media in New York. The program runs in association with Global Education Office for Undergraduates.

DUKE IN NEW YORK SUMMER INTERNSHIPS IN THE CITY

The Summer Internships in the City Program is part of the Duke in New York Arts and Media Program and, like it, features an internship for Duke credit in a context that allows for an educational, safe, and convenient summertime experience in New York. During Summer Session I, students take a seminar called “Summer in the City” (ALP, R, and W credit) that introduces them in a compact way to neighborhoods, cultural institutions, businesses, and the demographics of New York and, through a series of carefully calibrated assignments, allows them to complete a final project that draws upon their classes, training, creativity, and professional interests. The seminar lasts six weeks; students stay on during Summer Session II, with a Duke faculty member in residence, to complete their internships. Because of the compact length of Summer Session I, there is no guest speaker course or NYU course and a smaller number of events is included than in the Fall Duke in New York Arts and Media program. But students still get an enviable taste of theatre, dance, museums, and music in the City and an educational summer informed by the experience of living and working in New York. The program runs in association with Global Education Office for Undergraduates.

DUKE IN NEW YORK FINANCIAL MARKETS AND INSTITUTIONS

The Duke in New York Financial Markets and Institutions Program introduces students to the financial services industry. They will gain firsthand knowledge of financial regulations and institutions both through coursework and personal interactions with Duke Alumni in the industry. The program is offered in the spring of each year, and is jointly administered by the Department of Economics and the Global Education Office for Undergraduates. It incorporates four full-credit courses taught on NYU’s campus, mentoring from Duke Alumni in the industry, guest lectures and panels, visits to trading floors, and socials hosted by financial institutions.

The program aims to give students interested in finance a fuller picture of the opportunities available—academic, public and private. Students should leave the program with practical knowledge in the finance field, and professional contacts in their area of interest. Moreover, students will have a sense of the community of Duke Alumni and other professionals in the finance industry. For more information please go to: http://econ.duke.edu/DukeinNY/program.
DUKE IN LOS ANGELES

Duke in LA is a spring semester program, based at the University of Southern California (USC) in Los Angeles, California. This four-course, intensive, interdisciplinary program includes courses in film production and media, as well as a course focusing on issues relating to L.A.’s status as a megacity.

This program offers a credit-bearing internship with a business or organization that counts as one of the courses on the program. In addition to coursework, this program features field trips to notable events and locations in Los Angeles, exposure to the diverse cultures of Southern California and the opportunity to make connections with people in various fields. For more information, contact the Global Education Office for Undergraduates at globaled@duke.edu or visit the Duke in LA Web page: http://studyabroad.duke.edu/home/Programs/Semester/Duke_in_LA.

DUKE UNIVERSITY MARINE LABORATORY
(Nicholas School of the Environment)

The Marine Laboratory of Duke University, located on Pivers Island in the historic town of Beaufort, North Carolina, is a 15-acre campus with research laboratories, classroom buildings, dormitories, a dining hall, and boats. The situation of the Duke Marine Lab provides easy access to marine habitats, including coastal settings with contrasting degrees of development. The Rachel Carson National Estuarine Research Reserve and undeveloped Outer Banks stretch to the east of Pivers Island; to the west is Bogue Banks, a spit of heavily developed land. Shallow waters of the Pamlico, Albemarle, and Bogue Sounds are rich with estuarine life and fringed by expansive salt marshes. The Marine Lab serves students in the biological and environmental sciences as well as those in social science, humanities, and engineering. Residential undergraduate courses are offered year-round (Fall, Spring, Summer Sessions I and II). Fall and Spring courses include Beaufort Signature Courses, which offer students opportunities for extended travel with Duke faculty to places like Costa Rica, Mexico, Panama, Puerto Rico, and Singapore. Small class sizes and an island setting facilitate rewarding student-faculty interactions. Duke students in good standing are automatically accepted to the Marine Lab’s academic programs.

For additional information, contact the Academic and Enrollment Services Office, Duke University Marine Lab, 135 Duke Marine Lab Rd., Beaufort, North Carolina 28516 (252-504-7502); e-mail: ml_enrollment@nicholas.duke.edu or visit http://www.nicholas.duke.edu/marinelab.

UNDERGRADUATE RESEARCH SUPPORT OFFICE

Duke University encourages connections between its undergraduate students' academic experience and the research endeavors of its faculty scholars and investigators. The Undergraduate Research Support (URS) Office in Trinity College promotes student involvement in research by advising the number and diversity of opportunities for students, by fostering, mentoring, and by providing material support for research engagements and the dissemination of undergraduate research. The office provides assistantships and grants through the academic year, offers competitive research fellowships for summer research and organizes summer research programs in multiple disciplines. For detailed information, visit http://trinity.duke.edu/undergraduate-research.

STUDY ABROAD (Global Education Office for Undergraduates)

A Duke student may earn credit for approved work completed during the academic year at a university or for an approved program abroad sponsored by Duke or by another approved American college or university in the fall, spring, and summer. No pre-matriculation credit will be awarded for college course work completed on a study abroad program undertaken prior to matriculation at Duke. Approved non-Duke programs earn transfer credit. To receive the maximum amount of transfer credit at Duke—generally four course credits for a full semester, eight for a full academic year, two for a summer—a student is expected to take a full, normal course load, as defined by the Global Education Office for Undergraduates (GEO-U). The responsible Duke departments, however, make the final decision on the final number of credits transferable. Students attending certain British, Irish, and Japanese universities for the full academic year can transfer a maximum of eight
courses. However, at certain British, Irish, and Japanese universities which are on the trimester system, only three course credits may be transferred for the single fall trimester. Students attending such universities in the spring are required to attend the two remaining trimesters and may transfer a maximum of five credits. No additional study abroad transfer credit will be awarded for a course overload.

Trinity international students may receive a total of two, and Pratt international students up to four, domestic transfer credits for study in their home country. They will be given a personal leave of absence upon approval by their academic dean.

A student who wishes to receive credit for study abroad should take into account the following criteria established by the faculty and administered by the Global Education Committee for Undergraduates:

1. a scholastic grade point average of at least 2.7 for semester or academic year study abroad—a student lacking this average may petition his academic dean if there are unusual circumstances;
2. approval, obtained before leaving Duke, of the appropriate directors of undergraduate studies for the courses to be taken abroad, as well as approval of the program and the courses by the dean responsible for study abroad and by the student's academic dean.

A student on academic or disciplinary probation or one who does not meet academic continuation requirements will not be permitted to study abroad, regardless of the student’s acceptance to a program. Students who have been dismissed for any disciplinary reason must complete at least one regular semester with no further infractions on campus prior to being eligible for study abroad. Similarly, students who have been dismissed for any academic reason must successfully complete a full semester on campus prior to being eligible for study abroad.

Transfer credit will be awarded for work satisfactorily completed in Duke-approved programs abroad in accordance with GEO-U policies and procedures. Transfer credit courses may, upon evaluation, carry Area of Knowledge codes. The foreign language (FL) mode of inquiry is only available to transfer courses through a petition process upon return.

When studying abroad, only students who study abroad for the full academic year in the same program are allowed to enroll in an independent study course at a foreign institution and only in the second semester of the study abroad sojourn. Detailed information about independent study while abroad may be found at http://global.duke.edu/geo and in the Duke Abroad Handbook. Some Duke academic departments may restrict credits earned for independent study courses.

To determine eligibility to earn recognition for honors such as Dean’s List while studying abroad, consult the section on Academic Recognition and Honors or your academic dean. Arrangements are normally made for students to register, while abroad, for the term in which they plan to return. Seniors planning to spend their final semester abroad are subject to the residence requirement and may face postponed graduation because transcripts from abroad are often delayed. Students studying abroad on semester programs not administered by Duke will be charged a study abroad fee. See the Financial Information chapter (page 101) for information concerning fees for studying abroad on Duke-approved semester programs.

**Semester and Academic Year Programs**

Duke currently administers and supervises a number of its own study abroad programs. In these programs, Duke faculty are directly involved and the courses receive Duke credit, as courses on campus do, unless otherwise noted. Information on these programs is available from the GEO-U (http://global.duke.edu/geo). The Duke-administered programs are as follows:

**China, Beijing/Kunming.** In cooperation with Beijing’s University of Business and Economics, the Duke in China fall program features coursework in English in markets and managements studies and economics, as well as Chinese language study. No prior study of Chinese is required. Students live in residence halls or with host families. In cooperation with Yunnan Normal University, Duke conducts a spring semester program in Kunming, Yunnan Province. Participants must have at least one year of Chinese language prior to departure. While in China, they enroll in two Chinese language courses and two content area courses taught in English.
Students live in international student dormitories on campus. A host family option is available for students who have had more than two years of Chinese before the start of the program.

Costa Rica. These fall and spring programs are co-sponsored by Duke and the Organization for Tropical Studies. In the Tropical Biology program, students take four courses in tropical biology, ecology, and Spanish language. In the Global Health program, students study tropical medicine and public health, field ethnobiology, and Spanish language. Both programs stress full immersion in hands-on scientific and language-cultural studies. Students live with families and at research stations.

Ecuador, Quito. This semester or academic year interdisciplinary program in Latin American and Andean studies, called “Duke in the Andes,” is based at the Universidad Politécnica Salesiana. Students take one core course designed especially for the program, and select their remaining courses from program courses and host university offerings. Community service is required. Excursions may include the Andean highlands, Amazon basin, coastal villages, and the Galapagos Islands. Spanish 76 or equivalent proficiency is required and all coursework is in Spanish. Students live with families.

France, Paris. In cooperation with Cornell, Emory, and Tulane universities, Duke offers a semester or academic year program in Paris, under the name EDUCO. In addition to the EDUCO courses, students are able to select courses from the offerings of the Universities of Paris I, IV, and VII, and with special permission the Institut D'Etudes Politiques (Sciences Po). Applicants must have completed French through the 300-level or equivalent. Students live in French households, foyers, and student apartments. Students earn Duke credit for program-administered courses and transfer credit for courses taken at the French universities.

Germany, Berlin. Duke students study at the Humboldt University of former East Berlin (fall) and at the Free University of former West Berlin or the Technical University of Berlin (spring). In the fall semester they take specially arranged courses in German language, the humanities, and the social sciences for Duke credit. In the longer spring semester, up to five courses may be taken, up to two of which may be transfer credit chosen from the regular course offerings of the Free University and/or the Technical University of Berlin. The fall term is open to beginners, although at least one year of German is recommended. The spring term requires two years of German or the equivalent. Engineering students with only one year of German are eligible for the spring program if they take the special Intensive German for Engineers class in January, for an additional course credit. Students live with families.

India, China. The Global Semester Abroad program is a spring semester only program featuring Duke faculty and four courses on development, environment, and global health. Two courses taught in Udaipur, India and two in Beijing, China. Students conduct research and visit local NGO’s. Accommodations are in hotels, homestays, and student residence halls.

Italy, Rome. As the administering institution of the Intercollegiate Center for Classical Studies in Rome, Duke University may send classics majors and other students with strong classical interests for admission to a semester's work at the center, usually in the junior year. Instruction is offered in Greek, Latin, ancient history, ancient art, and archaeology. Some scholarship help is available. Students are housed at the program center.

Italy, Venice. This program is based at Venice International University, located on the island of San Servolo. VIU is an association of universities and organizations from around the world: Università Ca’ Foscari di Venezia, Università IUAV, Duke University, Ludwig Maximilians Universität (Munich, Germany), Tel Aviv University (Israel), Universitat Autònom de Barcelona (Spain), Waseda University (Tokyo, Japan), Tsinghua University (Beijing, China), Tilburg University (the Netherlands), Boston College, Consiglio Nazionale dell’Ricerche (CNR—Italy), Tongji University of Shanghai (China), Fondazione di Venezia (Italy), Ministerio dell’Ambiente e della Tutela del Territorio e del Mare (Italy), Provincia di Venezia (Italy). Faculty from all partner universities offer courses at VIU, providing students from all partner universities the opportunity to take courses from a variety of international scholars. Previous Italian language study is encouraged but not required. Most courses are taught in English. Students live in dormitories on the island of San Servolo or in the city of Venice in apartments.

Russia, St. Petersburg. This fall or spring semester program is offered for undergraduate and graduate students who have studied Russian for two years at the college level. Students are enrolled in the St. Petersburg
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State University and have the opportunity to improve their language skills in a living-learning environment. All courses are taught in Russian. Students are housed with families.

Scotland, Glasgow. The Sanford School of Public Policy offers the opportunity to study during the fall semester at the University of Glasgow. Founded in 1451, the University of Glasgow is the fourth-oldest university in the English-speaking world and is famous for its contributions to political economy and moral philosophy, making it a particularly good location for students to engage in public policy studies. Students take the program’s seminar in public policy in addition to three transfer credit electives from the general university curriculum. Students live in residence halls. The program is also open to students in other majors.

South Africa. This fall and spring semester program is co-sponsored by Duke and the Organization for Tropical Studies. Students take four core courses in South African ecosystems, field research, conservation, and history and culture. The program is based in Kruger National Park and includes one extended field trip to Cape Town.

Spain, Madrid. Duke University offers a semester or academic year program at the Universidad San Pablo in Madrid. The program aims at improving participants’ Spanish fluency and deepening their understanding of Spain and its many cultures within a global context. Subject areas for courses include literature, art history, economics, anthropology, history, and political science. The language of instruction is Spanish. Students live with host families.

Turkey, Istanbul. The interdisciplinary curriculum of this semester program, based at Bogazici University, introduces cultural, historical, and religious issues emerging at the intersection of Europe and the Middle East, with particular attention to the unique position of Turkey within the global context. Students are required to take one course with the Duke program director and one course in Turkish language. The remaining two classes are electives chosen from the departments of history, philosophy, sociology, anthropology, engineering, economics, and political science, among others. Students live in a residence hall, in suites shared with Turkish and other international students. No prior knowledge of Turkish language is required.

A number of approved programs sponsored by other institutions are also available to Duke students for study abroad. Further information concerning semester and academic year programs may be obtained at the GEO-U, Bay 6, 2nd Floor, Smith Warehouse, or at http://global.duke.edu/geo. Duke-approved programs sponsored by other institutions are not administered by Duke University and all credits earned are transfer credits. To ensure credit from these programs, and to retain enrollment status at Duke, all Trinity College and Pratt School of Engineering students are responsible for following the procedures and meeting the deadlines set forth in materials available from the GEO-U Web site. In all cases, the assistant vice provost for global education must be informed in advance about a student’s plans. Students who do not follow the proper procedures will not be guaranteed credit for their study abroad experience.

Duke Summer Programs Abroad

The Global Education Office for Undergraduates, in cooperation with several university departments, provides many opportunities for students to study abroad during the summer while earning Duke University credit. Information about Duke summer programs abroad and about the time they will next be offered can be obtained from the GEO-U web site. The following programs have been offered in previous years.

Australia, Sydney. This one-course, four-week program focuses on Australian biogeography and culture and is based at the University of New South Wales in Sydney. The program includes excursions to locations such as the Northern Territory, the Great Barrier Reef, and the tropical rain forest of northern Queensland.

Belgium/Netherlands. This two-course, six-week program focuses on a contextual study of late medieval, renaissance, and baroque art and culture in Belgium and the Netherlands. The double-credit course, History of Netherlandish Art and Visual Culture in a European Context, is taught in English by a Duke faculty member with Dutch and Flemish guest lecturers, and art specialists. The program is based for the first two weeks in Amsterdam (Netherlands) and for the remaining four weeks in Ghent (Flanders). Participants visit numerous Dutch and Flemish cities and museums. Accommodations are in hotels.
Canada, Montreal. This one-course, four-week program explores the intersection of marketing and cultural identity in Montréal and Québec City. Together with government officials, business leaders, and local artisans, students examine how globalization impacts cultural identity and how Québec markets have adapted to these challenges. Coursework and site visits are conducted in French. Students may earn credit in French, Markets and Management Studies (MMS), and Canadian Studies. Accommodations are in student apartments.

China, Beijing. This two-course, eight-week program, based at the University of International Business and Economics, provides students with the opportunity to learn the equivalent of one year of Chinese in a single summer program. Participants must have at least one year of Chinese language to be eligible for the program. Students are housed in dormitories. A host family option is available for students who have had more than two years of Chinese before the start of the program.

Costa Rica. The GEO-U, in collaboration with the Organization for Tropical Studies (OTS), offers a one-course, four-week field studies summer program in Costa Rica, focusing on tropical biology. One year of college-level biology is required. Students live at the OTS field stations, Las Cruces, La Selva, and Palo Verde, each located in a distinct ecosystem.

Egypt/Qatar. This six-week, two-course program sponsored by Duke University’s Department of Asian & Middle Eastern Studies (AMES), Department of Religion, and Global Education Office for Undergraduates (GEO-U) provides students with the opportunity to explore not only the socio-political development and intricacies of the Arabia region, but also to gain real life experiences through interaction, observation and field visits in both Qatar and Egypt.

France, Paris. This two-course, six-week program provides the opportunity to take Duke courses in Paris. The language of instruction is French. Applicants must have completed French 76 or the equivalent. Students live in homestays.

Germany, Berlin. This six-week, two course program is offered in cooperation with Rutgers University and features faculty from both institutions. In addition to German language courses ranging from elementary to advanced levels, content courses in English, which have a substantial focus in German politics, history, and culture, are offered. German majors are encouraged to enroll in two German language courses. Non-German studies students may enroll in two elective courses taught in English, or take one course in German and one in English, the most popular option. Students live in shared apartments.

Ghana, Accra. Based at the University of Ghana at Legon, just outside Accra, the program includes extensive field trips and excursions to rainforests and the dry northern savannah, coastal fishing towns, and rural farming villages; tours to a former slave fort at Cape Coast and Elmina; and museums and craft villages near Kumasi. The six-week, two-course program provides a comprehensive look at Ghanaian culture, history, and politics. A major research project based on independent fieldwork is required. Accommodations are in hostels, hotels, and with host families.

Greece, Athens and Islands of the Aegean. This four-week, one-course program offers a study of the Classical Greeks’ pronounced emphasis on the rational aspect of human nature which enabled them to lay the foundations for subsequent intellectual developments in western thought. Concentration is on Athens, northern and southern Greece, as well as the Cycladic Islands. Accommodations are in hotels and onboard boats.

Italy, Rome. This one-course, four-week program in Rome explores the history and culture of Rome and includes visits to historical sites and museums, walking lectures, and readings. The course examines the history of the city from the earliest times through the Baroque and modern periods. The course is taught in English. Students reside at the Intercollegiate Center for Classical Studies, and in hotels during field trips that take them away from Rome. This program is offered every other year.

Italy, Venice, including the Bay of Naples. This one-course, four-week program generally focuses on Venetian culture, history, art, and literature. The course is taught in English under the direction of a Duke professor. Museum visits, theater and musical performances, and local festivals may be included. Students live in a dormitory of the Venice International University on San Servolo Island.

Russia, St. Petersburg. This program offers two Russian language and culture courses in St. Petersburg. Russian language study at different levels is offered. Classes are taught at St. Petersburg State University by
faculty members of the university. A minimum of two semesters of college-level Russian is suggested. Students are housed in an apartment-hotel.

**South Africa.** The GEO-U, in collaboration with the Organization for Tropical Studies (OTS), offers a one-course, four-week summer program in South Africa, which integrates classroom and field instruction to introduce students to the fundamental principle of South African medicine and public health systems. The program incorporates visits to primary health care facilities in both urban and rural areas. Accommodations are a combination of homestays, research stations, and lodges.

**Spain, Alicante.** The Duke Intensive Spanish in Alicante program is a summer language program geared for beginning to low-intermediate students. Courses offered are Spanish 13 - 01 *Intensive Elementary Spanish*, which combines coursework currently offered at Duke in 1 and 2, and Spanish 16 - 01 *Intensive Intermediate Spanish*, which covers material included in Spanish 63 and 76. Both are double-courses valued at two-course credits. Immersion into Spanish society is enhanced by increased exposure to language and culture. Excursions to important historical sites, along with local city tours complement the program.

**Spain, Madrid.** This two-course, six-week program in Madrid offers advanced Spanish students further language training as well as the opportunity to study Spanish culture, history, and politics. Sample excursions include Barcelona, Salamanca, Toledo, Segovia, Granada, Sevilla, and Cordoba. Both courses are conducted in Spanish, and students live with Spanish families. Applicants must have completed Spanish 76 or the equivalent.

**Switzerland, Geneva.** This two-course, six-week program in Geneva focuses on globalization issues in business and international management. Students are housed in residence halls at the Cité Universitaire of the University of Geneva. The courses are taught in English. A field trip to Berlin is also included in this program. 

**Turkey.** Located on the strikingly beautiful campus of Bogazici University, perched on a hill overlooking the Bosphorus, the program exposes participants to various aspects of Turkish history and culture. Each year a different faculty member from Duke teaches a course related to his or her expertise. All coursework is in English. The program is open to all majors. Students live in a residence hall.

**United Kingdom, London-Drama.** This two-course, six-week program offers the opportunity to study drama using the resources of London's theaters in conjunction with study of dramatic texts. The courses are *Theater in London: Text*, and *Theater in London: Performance*. Both courses are taught jointly by faculty of Duke and a distinguished group of British theater practitioners from London. The group attends over 20 theater productions in London and Stratford-upon-Avon. Accommodations are in a residence hall.

**United Kingdom, Oxford.** This six-week, two course-credit program at New College, University of Oxford, utilizes the Oxford tutorial system of education supplemented by lectures given at the University of Oxford's International Graduate Summer School by noted British scholars. Areas of study include Shakespeare, Victorian literature, British history, politics and government, classical and contemporary political philosophy, and science, ethics and society.

**Special Summer Programs**

**DUKE SUMMER FESTIVAL OF THE ARTS**

The Duke Summer Festival of Creative Arts is administered jointly by the Summer Session Office, Duke Performances, the Sarah P. Duke Gardens, and the University Union. The festival presents special events throughout the summer including North Carolina-based independent rock, jazz, world music, chamber music, outdoor films, and an indoor film series. All of these are offered to Duke students and others at a very low cost.

**THE AMERICAN DANCE FESTIVAL**

The six-week program offers a wide variety of classes, performances, and workshops. For a catalog, write to the American Dance Festival, Duke University, Box 90772, Durham, North Carolina 27708-0072, or telephone (919) 684-6402.

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Campus Life and Activities

DUKE BASKETBALL
VS. BELMONT
Fri. 9 PM
OPENING NIGHT
Student Affairs

The Division of Student Affairs is critically engaged in all aspects of students' lives and collaborates with students, faculty, staff, alumni, parents, and many others in the delivery of key services and support to students and all whom the Division serves.

Student Affairs provides programs and services that support the optimal growth of Duke students, enhance their intellectual, social, cultural and physical development, and complement Duke's academic excellence by providing opportunities for students to experience education and explore interests beyond the classroom.

Student Affairs has identified five strategic goals that guide our work and inform assessments of our success. As a Division, Student Affairs: facilitates the translation of learning; shapes and sustains inclusive and supportive communities committed to each individual's sense of belonging; cultivates ethical and engaged citizens dedicated to serving one's local and global communities; advances the physical, emotional, and spiritual health of university community members; and channels resources wisely to strengthen our ability to meet emerging student needs.

Overseen by Vice President for Student Affairs Larry Moneta, our education and direct service departments include:

- Campus Life-Center for Lesbian, Gay, Bisexual, and Transgender Life; Center for Multicultural Affairs; Fraternity & Sorority Life; International House; Jewish Life at Duke; Mary Lou Williams Center for Black Culture; Muslim Life at Duke; University Center Activities & Events; and Women's Center.
- Career Center
- Dean of Students-Student Wellness Center; Mediation; Family Programs; Student Conduct; Student Health; and Counseling & Psychological Services
- Office of the Vice President
- Housing, Dining & Residence Life; Community Housing; Dining Services; and New Student Programs
- Resource Administration-Finance; Human Resources; Information Technology Services

CAMPUS LIFE

Campus Life (www.studentaffairs.duke.edu/campuslife) provides education, advocacy and support for Duke students through advising, leadership development and experiential education. Campus Life is comprised of eight departments that: work with a multicultural campus community to promote intellectual understanding, acknowledgement, and appreciation of their differences and similarities; advocate for equal access for students and student groups to participate in campus activities, including an equitable distribution of support resources for those activities; and promote a seamless integration of the academic and co-curricular sides of the University to promote a holistic, educational experience for students.
Outreach programs and services are designed to foster an equitable and engaged university community as well as a culture of broad social and civic understanding.

- The Center for Lesbian, Gay, Bisexual, and Transgender Life (Center for LGBT Life) provides education, advocacy, support, and space for lesbian, gay, bisexual, transgender, questioning, and straight-allied students, staff, and faculty at Duke, as well as alumni/ae and members of neighboring communities; and presents educational, cultural, and social opportunities for all students, faculty, staff, and alumni/ae to challenge intolerance and to create a more hospitable campus climate. Visit the Center for LGBT Life website at www.studentaffairs.duke.edu/lgbt.

- The Center for Multicultural Affairs offers educationally based cross-cultural programs to Duke students, and provides technical support on multicultural issues for the university community. CMA is dedicated to helping multicultural students, and all Duke students, receive the benefits of a first-rate multicultural educational experience by providing programs, services and connections with faculty, staff and alumni to deliver a sound diversity agenda. Visit the Center for Multicultural Affairs Web site at www.studentaffairs.duke.edu/mcc.

- Fraternity & Sorority Life advises, serves and supports 38 nationally affiliated chapters and the general Greek community. In partnership with faculty, staff, alumni, families, and (inter)national organizations, we challenge and educate students in the areas of leadership, cultural awareness, personal and group development, scholarship, and civic responsibility. Visit the F&SL Web site at www.studentaffairs.duke.edu/greek.

- International House assists international undergraduate, graduate and professional students and their families with orientation and acclimation; enhances cross-cultural interaction among students, faculty and staff through events, programming and community outreach; and provides advocacy and support for the Duke international community on a broad range of issues. Visit the International House Web site at www.studentaffairs.duke.edu/ihouse.

- Jewish Life at Duke is comprised of the Freeman Center and the Rubenstein-Silvers Hillel. The Freeman Center provides a home for Jewish life on campus while the Rubenstein-Silvers Hillel provides exciting and innovative programming throughout the Duke community. The combination works to foster and enrich Jewish life for students, faculty and staff through social, educational, religious and cultural activities. Visit the Jewish Life Web site at www.studentaffairs.duke.edu/jewishlife.

- The Mary Lou Williams Center for Black Culture promotes racial understanding, builds community, and fosters an appreciation for and increased knowledge of Black people, Black history, Black culture, and the vast contributions of people of the African Diaspora. MLWC provides programs and services that contribute to the successful academic and personal development of Black students at Duke, and positively impact the lives of all those whom they encounter. Visit the Mary Lou Williams Center Web site at www.studentaffairs.duke.edu/mlw.

- Muslim Life at Duke is committed to enriching the lives of Duke's Muslim students through programs and services that cater to their spiritual, social and intellectual needs. Through the combined efforts of the Muslim Chaplain and the Muslim Student Association, Muslim Life at Duke provides interfaith, community service and social activism opportunities that allow students to discuss and practice topics related to faith, peace, compassion and understanding in a warm and enriching setting. These events and activities are open to all members of the Duke community as well as the Triangle community. Visit the Muslim Life Web site at www.studentaffairs.duke.edu/muslimlife.

- The University Center Activities & Events (UCAE) supports student programming, leadership exploration, and facility operations for student life, and more than 400 registered student groups on campus. UCAE provides services, support, and opportunities for students to engage in co-
curricular experiences that lead to personal development, life-long skills, and meaningful connections with other students, faculty, staff, alumni and others connected to the Duke community. Visit the UCAE Web site at www.studentaffairs.duke.edu/ucae.

• The Women's Center works to improve the status of women in higher education at Duke. By educating the university community about gender-related issues, addressing matters of particular concern to women, and promoting a campus climate that is safe, healthy, and respectful of all people, the Women's Center enhances all students' academic experiences. In collaboration with student groups and faculty and staff colleagues, the Women's Center offers information, advocacy, technical assistance, referrals, and programming on a variety of gender-related issues, including safety, health, personal and professional development, sexuality, discrimination, harassment, and sexual assault support services. Visit the Women's Center Web site at www.studentaffairs.duke.edu/wc.

CAREER CENTER

The Career Center (www.studentaffairs.duke.edu/career) provides career services of the highest standard to Duke undergraduates, graduate students and alumni of Trinity College, the Pratt School of Engineering and the Graduate School. Working in partnership with faculty and colleagues, and recognizing that each individual has unique needs, our staff members help students and alumni make the most of their Duke education, resources, and connections; develop career interests and values; and find satisfying work. Further, we build and maintain relationships with alumni and employers who can provide internships and learning opportunities, entry-level positions and opportunities for experienced professionals.
The staff of the Duke Career Center connects members of the university community so that students and alumni can receive career advice and mentoring when they need it and, in turn, help others when they are able.

DEAN OF STUDENTS OFFICE
The Dean of Students Office (www.studentaffairs.duke.edu/deanofstudents) coordinates new student orientation and parent/family programs, offers mediation services, advises fraternities and sororities, provides information to students looking for off-campus housing, responds to emergency situations involving students through 24/7 emergency coverage, offers programs in substance abuse prevention and health promotion, and manages the DukeReach program designed to help faculty find help for students in need. The Dean of Students office advises and refers individual students regarding personal concerns and follows up with student victims of crime, illness, or harassment.

- The Duke Student Wellness Center works to enhance the educational experience for Duke students by addressing substance use and abuse issues and promoting healthy physical, emotional and social development, including issues related to sexual health. The Duke Student Wellness Center is dedicated to fostering a living/learning environment on campus and within the surrounding community that encourages the full development of the individual as an engaged member of the community. Visit the Duke Student Wellness Center Web site at www.studentaffairs.duke.edu/duwell.

- The Office of Mediation Services provides conflict resolution services and training to the Duke University community. We assist students through all stages of the conflict resolution process including coaching, informal conversations and formal mediated settlements. Mediation Services helps all members of the University community understand and utilize the components of conflict resolution and mediation. Visit the Mediation Web site at www.studentaffairs.duke.edu/mediation.

- The Office of Student Conduct promotes personal responsibility and encourages honesty, integrity and respect among Duke students. Student Conduct is responsible for holding undergraduate students accountable for academic and non-academic violations of university policy, which flow from Duke’s honor code (the Duke Community Standard). The disciplinary process is designed to be an educational one by which individuals or groups recognize their mistakes and learn from them. Student Conduct also serves as an advocate for and resource to student victims of crime, illness, harassment, or other crises. Visit the Student Conduct Web site at www.studentaffairs.duke.edu/conduct.

- Duke Student Health is the primary source for healthcare services for Duke students, including general medical care, basic nutrition counseling, laboratory services, travel/immunization clinics, allergy/immunotherapy clinic, physical therapy, and more. Medical services are provided by board-certified faculty physicians and by physician assistants, nurse practitioners, and resident physicians under faculty supervision. The Student Health Center is a division of the Department of Community and Family Medicine and a department in the Division of Student Affairs. Student Health provides comprehensive, high quality health care and patient education in an environment that is compassionate, non-judgmental, and respectful of diversity. Student Health maintains a main clinic on West Campus on Flowers Drive, and a satellite clinic on East Campus in Wilson House. Most services at the Student Health Center (SHC) are covered by the Health Fee. Emergency services are provided by the Emergency Department in Duke Medical Center. The Duke University Police Department (911 or 919-684-2444) is available to provide on-campus transportation to the Emergency Department. In addition, Duke EMS, a student team of Emergency Medical Technicians, is on-duty 24 hours a day to assist with medical emergencies. See www.studentaffairs.duke.edu/studenthealth or phone 919-681-9355.

- Counseling and Psychological Services (CAPS) helps Duke students enhance strengths and develop abilities to deal with the experiences of living, growing, and learning. CAPS offers many
services to Duke undergraduate, graduate, and professional students, including brief individual
counseling/psychotherapy, consultation, couples and group counseling, and assistance with
referrals. CAPS staff also provide outreach education programs to student groups, particularly
programs supportive of at-risk populations. Staff members are available for consultation with
faculty concerning students or other matters relating to mental health in the university community.
The CAPS staff includes psychologists, clinical social workers, and psychiatrists experienced in
working with college-age adults. CAPS staff carefully adhere to professional standards of ethics,
privacy and confidentiality. www.studentaffairs.duke.edu/caps.

**Housing, Dining & Residence Life (HDRL)**

Housing, Dining and Residence Life (www.studentaffairs.duke.edu/hdrl) manages all aspects of the
university's three-year undergraduate residency requirement. Residential programs are designed to build
positive communities that value learning, create new opportunities for faculty engagement, and generate
positive social connections. HDRL, student residents and others in the Duke community develop and maintain
environments that support classroom learning and stir students to seek learning opportunities in the world
around them. We promote opportunities for students to connect with others and develop a strong and enduring
sense of belonging; and intentionally provide opportunities for students to grow and develop, especially as
they wrestle with issues of identity, autonomy and responsibility. HDRL programs are rooted in the concepts
of mutual respect and civility, and recognize and celebrate the dignity and self-worth of all members.
HDRL also manages the facilities operations of all university student residences, which comprise
approximately 25 percent of all university space. These responsibilities include all long-range planning,
renovations and major projects, managing housekeeping and maintenance efforts, and ensuring that all
residence options are safe, secure, comfortable, and well-maintained.

- Community Housing is a campus resource for Duke students, faculty, staff and affiliates to locate
  rental housing in the Durham area. Visit the Community Housing Web site at
  www.studentaffairs.duke.edu/hdrl/graduate-professional-students.
- New Student Programs provide programs and resources to help new Duke students successfully
  matriculate, transition, and acclimate to the Duke community. Along with our academic partners,
  the departments provide an integral part of the foundation of the undergraduate experience and
  serves as a re-source and support network. NSP also manages several pre-orientation programs
  available to incoming Duke students, as well as the First-Year Advisory Council (FACs), which
  help new students with a variety of services to help them through the ups and downs of the first
  year experience. For more information, see www.studentaffairs.duke.edu/new-students.
- Dining Services manages more than 30 restaurants, cafes and food carts across campus, as well as
catering options. These food options are open to students, faculty, staff and visitors, and are an
integral, innovative and award-winning part of the overall Duke experience. Our goal is to provide
healthy and enjoyable food and eating venues, no matter where you are on Duke's campus. http://
dining.duke.edu

**RESOURCE ADMINISTRATION**

Resource Administration (www.studentaffairs.duke.edu/ra) is a collection of central service units
including finance, human resources, information technology, professional development, assessment and event
management. These central services support the work of Student Affairs departments through strategic
resource management, collaboration and partnerships with staff and other key stakeholders. Resource
Administration staff, services, and activities are focused on strategic planning, budgeting, financial operations,
payroll, information technology services, communications, staff recruitment, professional development
programs, employee relations, organizational development, and management of administrative facilities.
Dining Facilities

All students living in campus residence halls are required to participate in a dining plan. Several dining plans are available that allow a student to make purchases in the various dining locations by accessing a prepaid account carried on the student identification card, or DukeCard (see the section on food and other expenses in the chapter "Financial Information"). First-year plans include both board and debit accounts; plans for upperclassmen are debit accounts.

In the West Union Building on West Campus, The Great Hall offers a wide variety of foods, all in one location. The Loop Pizza Grill offers gourmet salads, California- and Chicago-style pizza, and burgers. Subway serves sub sandwiches, ice cream, and beverages. Chick-fil-A offers fried and grilled chicken sandwiches, salads, soft drinks, desserts, and lemonade in addition to burritos made by Cosmic Cantina. Alpine Bagels and Brews has bagels, sandwiches, assorted coffees, fresh-squeezed orange juice, yogurt, salads, and desserts. Just off the Bryan Center plaza, Pauly Dogs offers hot dogs, soft drinks, and assorted snacks. In the Bryan Center, also on West Campus, the Alpine Atrium serves bagels, assorted coffees, sandwiches, fresh-squeezed orange juice, smoothies, salads, and desserts. The Armadillo Grill offers a variety of Tex-Mex options. Our 24-hour McDonald’s features a full McDonald’s menu for breakfast, lunch, and dinner. With its spacious seating and comfortable sofas, it is a one-of-a-kind facility, unlike the typical McDonald’s at the mall. Other West Campus operations include the Refectory, located at the Law School, and the Sanford Deli in the Sanford School of Public Policy. Quenchers Juice Bar in the Wilson Center offers refreshing drinks that complement a healthy lifestyle. The Perk (Perkins Library) is a traditional coffee bar offering coffees, sandwiches, and pastries. The Tower in West Edens Link serves chicken wings, and other light fare. The Bella Union, also in West Edens Link, serves coffee, assorted hot and cold beverages, pastries, and ice cream. The Terrace Cafe in the Duke Gardens features delicious baked goods as well as salads, wraps, and assorted beverages. The Refectory, an environment-friendly eatery, is located in the Divinity school and serves breakfast and lunch.

On East Campus, The Marketplace carries an array of choices including pasta, pizza, deli, rotisserie, grill, and salad bar stations. Trinity Café has a diverse selection of quality coffees, pastries, bakery items, and snacks. In Trent Hall, Grace’s Café offers a wide variety of American and authentic Chinese cuisine. Blue Express (LSRC Pratt Dining Commons) provides hot and cold sandwiches and entrees, snacks, desserts, and drinks; and Twinneys (Ciemas Building) offers sandwiches and salads. The French Science Café, features coffee and fresh pastries. Our newest location, Devil’s Bistro, is located on Central Campus.

Students may also use their dining plan points to purchase food items in three campus convenience stores: Uncle Harry’s General Store on Central Campus, the East Campus Store on East Campus, and the Lobby Shop on West Campus as well as concessions at athletic events; sodas and snacks from vending machines; and late night pizza and sub delivery from approved local vendors.

Services for Students With Disabilities.

Duke University is prepared to make reasonable accommodations to allow students with disabilities full participation in the same programs and activities available to students without disabilities. The Student Disability Access Office (SDAO) assists students with disabilities who are enrolled in Trinity College and the Pratt School of Engineering. In order to receive consideration for reasonable accommodations under Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 (ADA) and the ADA Amendments Act of 2008, a student must have a physical or mental impairment that substantially limits one or more major life activities in comparison to the average person in the general population. Substantially limiting refers to an impairment that prevents an individual from performing a major life activity or significantly restricts the condition, manner, or duration under which an average person can perform a major life activity.

Students requesting accommodations under the provisions of the ADA (e.g., academic, housing) must contact the Director, Student Disability Access Office, at (919) 668-1267, to explore possible coverage.
Students with medical conditions not covered under the provisions of the ADA and the ADA Amendment Act may wish to contact Duke Student Health Service at (919) 684-3367 for further information.

In the interest of providing reasonable accommodations under the Americans with Disabilities Act, Trinity College and the Pratt School of Engineering will accommodate students who have a documented disability that prevents them from carrying a full course load. For these students, provided they are able to function academically, an underload/part-time course load will be authorized by the respective student’s academic dean upon the recommendation of the director of the Student Disability Access Office. Students so authorized (and for as long as they continue to enroll in a course underload) are exempted from meeting normal continuation requirements.

Students who wish to petition a reduced course load (fewer than four courses) prior to the beginning of a semester must have their request reviewed and approved by the SDAO prior to the beginning of the semester. These students must pass at least five of six consecutive courses while on a course underload.

Students who wish to petition a part-time course load (fewer than three courses) must have their request reviewed and approved by the SDAO prior to the beginning of the semester. These students must pass at least three of four consecutive courses taken while enrolled on a part-time basis.

Failure to meet this standard of academic performance will result in a withdrawal for academic reasons. Students approved for a part-time course load are eligible for financial aid in accordance with federal, state, and university guidelines. Students approved for a part-time course load are also eligible for university housing. All students accommodated under this policy must have their request reviewed prior to the beginning of each semester and are expected to return to full enrollment when/if their health or physical condition improves sufficiently. For further information regarding this policy, please contact the Director, Student Disability Access Office, at (919) 668-1267. For other academic assistance available to all Duke undergraduate students, see the section on the Academic Resource Center in this bulletin.

The Vice-President for Institutional Equity is the designated compliance officer for the Americans with Disabilities Act of 1990 (ADA), the ADA Amendments Act of 2008, and the Rehabilitation Act of 1973. The compliance officer can be reached at (919) 684-8222. Section 504 of the Rehabilitation Act states: "No qualified [disabled] person shall, on the basis of [disability], be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity that receives benefits from federal financial assistance." (Appendix II, section 51.51(a))

Student Organizations

**Duke Student Government.** The Duke Student Government (DSG) is the voice of the undergraduate student body of Duke University. DSG is responsible for articulating undergraduate student thought on issues relevant to the university and for working to improve the educational process and university environment. The working philosophy of DSG is that students have the right to participate in the university's decision-making process on matters that affect the student body. Coordinating the efforts of individuals and organizations, DSG lobbies university administrators on practices and policies which govern all facets of life at Duke.

DSG offers the opportunity for students to have input in university planning and policy development through the legislature, through university-wide committees, and through many unique student services. DSG's services seek to aid every undergraduate during his/her Duke career. For more information, see the Web site at [http://dsg.oit.duke.edu](http://dsg.oit.duke.edu).

**DukeGroups.** Duke University has approximately 370 student organizations, which foster student interaction and exchange, exploration of a variety of interest areas, understanding of the principles of organizational structure and management, and development of valuable collaboration, leadership, and communication skills. Student organization information is housed in the DukeGroups database at [http://www.dukegroups.com](http://www.dukegroups.com).

**Cultural and Social Organizations.** The scope of the more than three hundred student organizations is suggested by a partial listing of their names: Alpha Phi Omega service fraternity, Black Student Alliance, Baptist Student Union, Cheerleaders, International Association, Duke Ice Hockey, Outing Club, Sailing Club,
Model United Nations Club, Photography Group, and the N.C. Rural Health Coalition. There are 35 nationally-affiliated Greek chapters on Duke’s campus. Around 37% of undergraduates are Greek-affiliated; over 40% of women belong to sororities and nearly 30% of men are fraternity members.

Many opportunities are provided on campus in the areas of music and drama. The Chorale, United in Praise, Chapel Choir, Wind Symphony, Marching Band, Symphony Orchestra, and Collegium Musicum are examples of musical organizations. Duke Drama provides opportunities for non-drama majors to perform established and experimental drama; Hoof’n’ Horn presents musical comedy; Karamu performs drama related to the Black experience.

Several academic departments sponsor organizations and programs for students with special academic or professional interests. There are over twenty academic department majors unions on campus. There are also academic and leadership honorary societies.

Media. The Chronicle, the campus newspaper, publishes five issues weekly and is a separate not-for-profit organization. A humor magazine (Carpe Noctem), a literary magazine (the Archive), a science magazine (Vertices), a photography magazine (Latent Image), a journal of campus news and opinion (Duke Blue), and Eruditio, a social science journal, are published on a regular basis by students. In addition, a comprehensive yearbook, the Chanticleer, is produced each year. These publications are under the direction of the Undergraduate Publications Board, which chooses the editors and business managers and reviews the financial budgets. The DukEngineer, the official student magazine of the Pratt School of Engineering, appears twice each year and contains articles on technical and semi-technical topics as well as other matters of interest to the school. VOICES magazine, published by the Women’s Center, addresses issues of gender, ethnicity, and sexual orientation. Additionally, there are a number of independent publications on a variety of topics published by students and distributed on campus. WXDU 88.7 FM is the student-managed and programmed radio station, broadcasting to the Duke and Durham communities. Duke Student Broadcasting (formerly Cable 13) is operated by students and produces programs that are broadcast online.

Intercollegiate Athletics

The Athletic Department fosters intercollegiate athletics by striving for excellence and by providing the best possible framework within which highly accomplished student athletes can compete. The department has a dual responsibility to provide a high-quality athletic program and environment so that all students have the opportunity to compete to the fullest extent of their abilities. Duke is a member of the National Collegiate Athletic Association (NCAA) and the Atlantic Coast Conference (ACC). The ACC consists of Boston College, Clemson, Duke, Florida State, Georgia Tech, Maryland, Miami, North Carolina at Chapel Hill, North Carolina State, Virginia, Virginia Tech, and Wake Forest.

The intercollegiate program for men includes football, soccer, basketball, cross country, swimming, fencing, wrestling, indoor and outdoor track, baseball, golf, tennis, and lacrosse. The women's athletic program provides intercollegiate competition in basketball, fencing, field hockey, golf, lacrosse, soccer, swimming, tennis, volleyball, rowing, indoor and outdoor track, and cross country. Freshmen may participate on all varsity teams.

The director of athletics and associate director of athletics provide departmental leadership and coordinate all athletic policies with the University Athletic Council. The council consists of representatives from the undergraduate student body, the faculty, the administrative staff, the trustees, and the alumni. The council meets with the director of athletics periodically during the school year. The chair of the council is the official university representative at national and conference athletic meetings.

Judicial System and Regulations

Duke University has high expectations for students’ scholarship and conduct. Each student is subject to the rules and regulations of the university currently in effect, or which are put into effect from time to time by the appropriate authorities of the university. At the same time, the individual is responsible for decisions
and choices within the framework of the regulations of the community, as Duke does not assume *in loco parentis* relationships.

Students, in accepting admission, indicate their willingness to subscribe to and be governed by these rules and regulations. They acknowledge the right of the university to take disciplinary action, including suspension or expulsion, for failure to abide by the regulations or for other conduct adjudged unsatisfactory or detrimental to the university community.

Responsibility for prescribing and enforcing rules and regulations governing student conduct rests ultimately with the Board of Trustees of Duke University and, by delegation, with administrative officers of the university. In the undergraduate schools, and in the university as a whole, many of these rules have been established over the years by cooperative action between students, faculty, and administrative officers. Representative student organizations, such as student governments and judicial boards, and more recently, community-wide bodies of students, faculty, and administrators, have initiated proposals for policies and rules necessary to assure satisfactory standards in academic and nonacademic conduct. These proposals have been accepted by university officers and have become a substantial, if not all-inclusive, body of rules governing student life at Duke. For current regulations, refer to the *The Duke Community Standard in Practice: A Guide for Undergraduates*.

Students in Trinity College of Arts and Sciences and in the Pratt School of Engineering constitute an undergraduate community whose members are subject to the rules and regulations of the Undergraduate Community. Violations of any published policy by individuals and residential or nonresidential cohesive units may be adjudicated under the procedures set forth in the *The Duke Community Standard in Practice: A Guide for Undergraduates*.

**Student Obligations and Requirements**

Students are expected to meet academic requirements and financial obligations, as specified elsewhere in this bulletin, in order to remain in good standing. Certain nonacademic rules and regulations must be observed also, including accepting responsibility for behavior that is disruptive or threatening to the safety of self or others. Failure to meet these requirements may result in dismissal by the appropriate officer of the University.
Admission
Principles of Selection

James B. Duke, in his Indenture of Trust, requested that "great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination, and application evincing a wholesome and real ambition for life." Therefore, in considering prospective students, Duke University looks beyond the basic characteristics of academic competence possessed by the majority of applicants. It seeks, regardless of race, color, religion, national and ethnic origin, gender, handicap, sexual orientation, or age, not only evidence of intellectual promise and maturity of judgment, but also a sense of life beyond the classroom. Often, this is expressed in the form of special talents and accomplishments; it is seen consistently in a student's determination to make creative use of the opportunities and challenges posed by Duke University.

Requirements for Application

As there are occasionally changes in admission policies or procedures after the printing deadline for the Bulletin of Duke University: Undergraduate Instruction, candidates are urged to consult the Duke Admissions website, www.admissions.duke.edu, for specific admissions information, dates, and policies.

DEGREE STATUS

Although there are no inflexible requirements as to subject matter, students are urged to choose a broad and challenging high school program. Candidates for admission should present a minimum of four years of English and at least three of mathematics, natural sciences, a foreign language, and social studies. Applicants to the Pratt School of Engineering are strongly advised to take four years of mathematics and four years of science, including physics and chemistry. Calculus is a prerequisite for admission to the Pratt School of Engineering. All candidates for first-year standing must complete either the SAT Reasoning Test, or the ACT with the optional writing portion. Those students who choose to take the three-part SAT should also complete two SAT Subject Tests. Applicants to the Pratt School of Engineering should take one SAT Subject Test in mathematics (level 1 or 2). Students wishing to continue study or gain course exemption in a foreign language should complete an SAT Subject Test or Advanced Placement exam in that language. Even though the foreign language SAT Subject Test is not required for admission, we strongly recommend that students take the test before leaving high school. Students should refer to the Duke Admissions website, www.admissions.duke.edu, and follow the appropriate undergraduate admissions links for the most recent information on SAT Subject
Test requirements for incoming students. The SAT Reasoning and Subject Tests should be taken by October of the senior year for Early Decision applicants and by January of the senior year for Regular Decision applicants. Students choosing to take the ACT will not be required to submit SAT Reasoning or Subject Test scores; however, the ACT will be used for admission only, not for placement or exemption. The ACT should be taken by October of the senior year for Early Decision applicants and by December of the senior year for Regular Decision applicants.

NONDEGREE STATUS

Summer Session. Persons who are or were at the time of leaving their home institutions in good standing in accredited colleges or universities may be admitted for summer study only by the director of the Summer Session. Students who are “on leave” or who have been involuntarily withdrawn from the University are not eligible to enroll in courses as visiting students in Summer Session.

Continuing Education. Admission as a continuing education student at Duke is limited to adults who live in the Triangle area; Duke graduates; persons who will be moving into the area and plan to reside here for a substantial period of time, for family and work reasons; and local high school seniors. These students are given academic counseling by the Office of Continuing Studies; they are subject to most of the regulations set forth for degree candidates. Students who are “on leave” or who have been involuntarily withdrawn from the University are not eligible to enroll as non-degree students through the Office of Continuing Studies. Because these students oftentimes are prohibited from being on the Duke campus, they should also understand that they may not enroll in any noncredit classes that meet on the Duke campus.

Application Procedures

DEGREE STATUS

Information regarding applying for admission may be obtained online at the Duke Admissions website, www.admissions.duke.edu. A nonrefundable processing fee that is determined annually must accompany the first part of the application. Students may apply using either the Common Application or Universal College Application plus the Duke Student Supplement Form. The Common Application (www.commonapp.org) and the Universal College Application (www.universalcollegeapp.com) are available in secondary school guidance offices as well as online. The required Duke Student Supplement Form is available online at both websites or at the Duke Admissions website, www.admissions.duke.edu.

A personal interview is not required for admission, but it provides an opportunity to learn more about an applicant’s strengths and goals. For many applicants, Duke offers interviews with local alumni when the Duke Student Supplement Form has been filed by the deadline (October 19 for Early Decision applicants and December 10 for Regular Decision applicants). While Duke makes every effort to interview all applicants who submit applications by these deadlines, interviews are not guaranteed.

Regular Decision. Candidates who wish to enter Duke as first-year students must submit a completed application no later than January 2 of their senior year in secondary school. Decisions are mailed from the university in early April, and accepted candidates are expected to reserve a place in the class by May 1.

Early Decision. Students for whom Duke is a clear first choice may apply for Early Decision. Candidates who apply for Early Decision are required to sign a statement confirming their commitment to enroll at Duke if they are admitted in the Early Decision process. Under this agreement, applicants are required to withdraw all applications to other colleges and universities as soon as they learn of their admission to Duke. Students may apply to only one school under a binding Early Decision plan. Duke reserves the right to withdraw the applications of students accepted to other schools under binding Early Decision plans. Secondary school counselors and parents are also asked to sign the Early Decision agreement. Students who are denied admission under the Early Decision program may not reapply for admission under the Regular Decision program.

Students applying for Early Decision must submit a completed application by November 1. The SAT Reasoning Subject Tests or the ACT examinations should be taken no later than October of the senior year. Early Decision applicants who have not completed their standardized tests may be deferred to Regular
Decision. Applicants are notified of their status—admit, defer, or deny—by mid-December. Admitted students are expected to respond by January 5. The credentials of candidates who are deferred are considered along with candidates for Regular Decision. Deferred students are no longer bound by the Early Decision agreement and are free to accept offers of admission from other colleges and universities.

The Early Decision plan is designed to provide well-qualified students who know Duke is their first choice a means of indicating that commitment to the university and notification of a decision early enough to eliminate the necessity of applying to several colleges.

Midyear Admission. A midyear (January) admission program has not been offered to first-year students for a number of years and there are no current plans to reinstate one.

Transfer Admission. A limited number of transfer seats may be available and will vary from year to year. Prospective transfer students should refer to the Duke Admissions website, www.admissions.duke.edu, for the most up-to-date information on the transfer process. Duke considers transfer applicants intending to enter Duke as sophomores or juniors. All Duke students, except those majoring in engineering, must meet the requirements for the Trinity College curriculum in addition to the requirements of their selected major. For most transfer students, this will require up to 6 semesters at Duke to complete. Candidates must submit completed application forms, official transcripts of all work completed at other accredited colleges, high school records, scores on the SAT or ACT, and employment records if there has been an extended period of employment since graduation from secondary school. See the section on transfer credit on page 44.

Transfer applicants submit a completed application by March 15, learn of their decisions in mid-May, and must respond to the university by June 1.

NONDEGREE STATUS

Summer Session. Registration forms and schedules of courses may be obtained by writing or calling the Office of the Summer Session, Box 90059, Duke University, Durham, North Carolina 27708-0059, (919) 684-2621. No application fee is required.

Continuing Education. Applications may be obtained from the Office of Continuing Studies and must be returned to that office, accompanied by the application fee, by August 1 for the fall semester, by December 1 for the spring semester, by April 15 for Summer Session, and by June 1 for Summer Session Term II. A certain grade point average over four courses must be attained before a nondegree student may apply for degree candidacy. More detailed information on nondegree course work through continuing education is available from the Office of Continuing Studies, Box 90700, Duke University, Durham, North Carolina 27708-0700.

READMISSION OF FORMER STUDENTS

Students applying to return to Duke following a leave of absence, withdrawal, dismissal or suspension must apply directly to the appropriate college or school. Students wishing to be readmitted to Trinity College should apply directly to the Office of Student Returns located in 011 Allen Building. For additional information visit the Office of Student Returns Web site, http://trinity.duke.edu/osr. Students wishing to be readmitted to the Pratt School of Engineering must apply directly to Pratt. For additional information, visit www.pratt.duke.edu. Also see the section, “Changes in Status” on page 55.
Tuition and Fees*

No college or university can honestly state that an education at the college level is inexpensive. Fees paid by students cover less than half the cost of their instruction and the operation of the university. Income from endowment and contributions from alumni and other concerned individuals meet the balance and assure each student the opportunity to pursue an education of unusually high quality.

Students are urged to give their attention first to the selection of institutions that meet their intellectual and personal needs, and then to the devising of a sound plan for meeting the cost of their education. This process will require an in-depth knowledge of both the university's financial aid program and the resources of the student's family. Information describing in detail the various forms of financial aid may be obtained from the Office of Undergraduate Financial Aid Web site at: [http://finaid.duke.edu](http://finaid.duke.edu).

**Estimated Expenses.** The figures in this section are projections and are subject to change. Certain basic expenditures, such as tuition, room, and board, are considered in preparing a student's budget. These necessary expenditures, with a reasonable amount allotted for miscellaneous items, are shown below:

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<th>Academic Year, 2011-2012</th>
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<td>(one semester equivalent)</td>
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<tr>
<td><strong>Tuition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trinity College</td>
<td>$42,308</td>
<td>$11,136-12,992</td>
</tr>
<tr>
<td>Engineering</td>
<td>$42,308</td>
<td>$11,136-12,992</td>
</tr>
<tr>
<td><strong>Residential Fee</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Room</td>
<td>$8,100-9,752</td>
<td>$3,822</td>
</tr>
<tr>
<td>Double Room</td>
<td>$6,138-7,384</td>
<td>$2,940</td>
</tr>
<tr>
<td>Triple Room</td>
<td>$5,464-6,584</td>
<td>$2,646</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100% board plan</td>
<td>$5,930</td>
<td>$2,052</td>
</tr>
<tr>
<td>75% board plan</td>
<td>$5,090</td>
<td>$1,280</td>
</tr>
<tr>
<td><strong>Books and Supplies</strong></td>
<td>$1,300</td>
<td>$650</td>
</tr>
<tr>
<td><strong>Student Health Fee</strong></td>
<td>$600</td>
<td>$186</td>
</tr>
<tr>
<td><strong>Student Activity</strong></td>
<td>$235</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Student Services Fee</strong></td>
<td>$256</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Recreation Fee</strong></td>
<td>$224</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Residential Program Fee</strong></td>
<td>$96</td>
<td>n/a</td>
</tr>
</tbody>
</table>

* The figures in this section are projections and are subject to change.
It should be realized that additional expenses will be incurred that will depend to a large extent upon the
tastes and habits of the individual. The average undergraduate student, however, can plan on a budget of
approximately $59,163. The budget estimate for the summer (two terms, one semester equivalent) is $16,964.
These budgets represent most student living expenses except for cable, telephone, parking, travel costs, loan
fees, and major clothing purchases.

**Fees and Deposits for Fall and Spring.** On notification of acceptance, students (including transfer
students) are required to pay a nonrefundable registration fee of $100 which includes a one-time transcript
processing fee, and to make an advance deposit of $200. The deposit will not be refunded to accepted applicants
who fail to matriculate.

**Late Registration.** Continuing students who fail to register during the registration period must pay a fee
of $50 to the bursar.

**Part-Time Students.** In the regular academic year, students who with permission register for not more than
two courses in a semester will be classified as part-time students. Part-time students will be charged at the
following rates: one course, $5,287; half course, $2,644; quarter course, $1,322. Registration for more than two
courses requires payment of full tuition. Graduate students registered for undergraduate courses will be
assessed three units for non-laboratory courses and four units for laboratory courses. Men and women in
nondegree programs who are being considered for admission to degree programs, as designated by the Office
of Continuing Education, pay fees by the course whether the course load is one, two, or three courses.

Auditing one or more courses without charge is allowed for students paying full fees, provided that the
consent of the instructor is obtained. Students who are enrolled for one or two courses may audit other courses
by payment of $514 for each course audited. With the consent of the appropriate instructor and the director
of Continuing Education, graduates of Duke may audit undergraduate courses for the above payment per
course.

**Fall and Spring Student Bills.** The Bursar’s Office prepares your bills for tuition and fees. Tuition and
fees are due before the start of each term. Fall 2012 charges are due on August 1, 2012; spring 2013 charges
will be due January 2, 2013. If you are applying for financial aid, you should complete that process before
the due date for fall 2011 bills.

Your bills are available electronically on ACES. You will receive an e-mail notice each time a new bill
is ready for your review. You may view your bills and your up-to-date student account history on ACES. If
you would like to grant permission to a parent or third party to access your bills and student account history,
please click on the “Guest Access” link on ACES.

**Payment.** Please pay by e-check, a fast and convenient method for paying your student account. To pay
by e-check, visit ACES or [www.bursar.duke.edu](http://www.bursar.duke.edu) and click the DukePay icon. You may also mail your payment
to the address listed on your bill.

**Payment Plan.** Duke partners with Tuition Management Systems (TMS) to provide a payment plan for
current term charges. You will receive payment plan details and enrollment information from TMS in late May.

Additional reference information regarding student accounts is available at [www.bursar.duke.edu](http://www.bursar.duke.edu). You
may also contact the Bursar’s Office for questions regarding your student account; contact them via e-mail at
bursar@duke.edu, telephone at (919) 684-3531, or facsimile at (919) 684-3091.

**Restrictions on Past Due Accounts.** As noted above, tuition and fees are due before the start of each term.
If your account becomes past due, a late payment penalty charge (not to exceed 1.25% of the past due balance
from the prior bill) will be assessed on subsequent bills. If your account remains unpaid, you will not be allowed
to register for future semesters and may be administratively withdrawn from Duke. As long as your account
is past due, you will not have access to academic transcripts, be able to have academic credits certified, or
receive a diploma at graduation. If your account remains outstanding after your departure from Duke, it may
be referred to a collection agency and reported to a credit bureau.
Fees for Study Abroad. Students who register to study abroad on programs administered by institutions other than Duke University will pay the tuition and fees of the administering institution. There will be a fee of $4,231 per semester, payable to Duke University, to maintain a student's enrollment at Duke.

Fees for Courses. Additional fees are charged for certain physical education activity and applied music courses. For specific charges, consult the Office of the Bursar.

Tuition and Fees for Summer Session. Tuition for undergraduates is $2,784 for each 3 semester hour (s.h.) course, $3,712 for each 4 s.h. course, $1,856 for each half course (2 s.h.), $928 for each quarter course (1 s.h.), and $5,568 for each one and one half course program (6 s.h.) offered at the Marine Laboratory.

Tuition for graduate students taking an undergraduate course is as indicated above.

Health Fee. All Duke students and all full-time non-Duke students are required to pay $93 per term. All students at the Marine Laboratory are required to pay $78 per five-week registration period.

Music Fee. A fee of $156 will be charged for Music 79. A fee of $312 will be charged for Music 80 to 89. A fee of $624 will be charged for Music 90 to 99.

Auditing Fees. Students carrying less than a full course program may be granted permission by the instructor and the Director of Summer Session to audit one non-laboratory course except a physical education and dance activity course, a studio art course, an applied music course, an independent study course, tutorials, and foreign programs. Regular deadlines apply. Courses may not be changed from credit to audit (or vice versa) after the drop/add period. For Arts and Sciences offerings, the auditing fee is $279 per course. Professional school course audit policies may differ.

Payment of Tuition and Fees. The Office of the Bursar will mail bills in April, May, June, and July to current Duke students enrolled for Summer Session. The bill due date will be three weeks from the date of the bill. Students will also be able to view their bills on the web. Problems meeting these deadlines should be discussed with the Office of the Bursar prior to the start of the term. Failure to meet deadlines may have implications for fall enrollment.

The Summer Session Office will enclose a statement of charges with the confirmation of registration letter sent to all visiting students, Duke graduates, and incoming Duke first-year students. Payment for Term I charges will be due on or before Wednesday, May 2, 2012. Payment for Term II charges will be due on or before Monday, June 18, 2012. If payment is not received by these dates, registration will be cancelled.

Summer Session retains the right to withdraw students from classes if they never attend, have not paid tuition and fees, or if they have failed to clear with the bursar, by the end of the drop/add period. Those withdrawn for these reasons will be billed the health fee and an administrative withdrawal fee of $150 per course. Attendance in classes after the first three days of the term obligates the student for the full tuition and fees for the course.

Students who, subsequent to withdrawal, clear with the Office of the Bursar may, with written permission of their academic dean, be reinstated in their classes as originally registered and receive regular grades. The administrative withdrawal fee will stand and the student will be liable for full tuition and fees.

Transcripts. Requests for transcripts of academic records can be made via ACES, Duke’s online student records system. Transcripts requested via ACES will normally be processed the next business day. (See the University Registrar’s Web page, http://registrar.duke.edu, for access to ACES.) Former students who do not have access to ACES may request transcripts by submitting a signed request form directly to the Office of the University Registrar in person, by mail, by fax, or by scanned e-mail attachment. All requests must be signed by the student. Transcripts will be withheld for outstanding financial obligations.

Duke Employees. With the permission of their supervisors, employees may, through the Office of Continuing Studies and Summer Session, take up to two courses for credit or audit during any one semester or one course during a summer term. A formal application for credit course work must be submitted by August 1 for the fall semester, December 1 for the spring semester, April 15 for Term I of Summer Session, or June
1 for Term II of Summer Session. Only employees desiring to continue in the fall semester should apply for admission during the summer. Employees desiring to take a course for credit only during the summer should complete the Summer Session application/registration form.

Many employees may be eligible to receive an Employee Tuition Benefit to enroll in regular university classes. Employees with at least two years of continuous service may be eligible to receive an Employee Tuition Benefit to enroll in regular university classes for academic credit. The Employee Tuition Assistance Program provides reimbursement of tuition for a maximum of two classes per semester (limit six semester classes per calendar year) up to $5,250 per calendar year for full-time employees. The employee's work supervisor must confirm the coursework is directly related to the individual's work assignment or future career development at Duke. For additional information and an application to participate in the Tuition Assistance Program, consult http://www.hr.duke.edu/benefits/education/tuition_assistance/index.php. Staff members of Continuing Studies and Summer Session are available to advise Duke employees on educational matters (919) 684-2621.

**Living Expenses**

**Housing for Fall and Spring.** In residence halls for undergraduate students the housing fee for a single room ranges from $8,100 to $9,752 for the academic year; for a double room, the fee ranges from $6,138 to $7,384; for a triple room, the fee ranges from $5,463 to $6,584 per occupant. Apartment rates for upperclass students range from $5,734 to $7,394 per occupant.

Detailed information concerning the student's obligations under the housing license and the consequences of failure to comply are published in the Duke University bulletin, The Duke Community Standard in Practice: A Guide for Undergraduates.

**Housing for Summer.** For detailed information on types and costs of accommodations available at Duke University for the Summer Session contact: housing@studentaffairs.duke.edu, (919) 684-4304. Web site: http://www.studentaffairs.duke.edu/rlhs

**Food and Other Expenses.** Duke Dining Services and Duke University Stores operations are located on campus to serve the needs of the Duke community. The university identification card, known as the DukeCard, can be used to gain access to prepaid accounts and make purchases in many Duke University facilities.

The first-year student dining program is comprised of two parts:

•Board meals: Twelve prepaid all you can eat meals per week. (Five breakfasts, five out of seven dinners and two brunches) at The Marketplace at East Union.

•Dining plan declining balance "points" to be used at any dining location on campus, convenience stores, concessions at athletic events, sodas and snacks from vending machines, and late night meal delivery from approved local off-campus vendors.

The cost of the First Year Plan is $2,350 per semester for the twelve-meal plan, plus one of three "points" plans (Plan G, H or I) which range from $345 to $450. Participation in the First Year Plan is required of all first-year students who reside on East Campus.

Upper class students who live in the residence halls are required to participate in one of five dining plan debit accounts that allows access to all dining locations. The five plan levels (Plan A - Plan E) range from $1,860 to $2,890 per semester. Upper class students who live in Central Campus apartments are also required to participate in the dining plan, but may choose to do so at the lower minimum requirement of Plan J ($1,315 per semester).

Nonresident students are not required to participate in the dining plan; however, Plan F, at a cost of $610 per semester is offered as an option.

An optional summer dining plan is provided in three plan levels ranging from $318 to $1026 per summer term.

* The figures contained in this section are projections and are subject to change prior to the beginning of the Fall 2011 semester.
Students may also purchase a Flexible Spending Account (FLEX) that can be used to purchase any goods or services from Dining Services, Duke Stores, and other campus operations. FLEX is optional and may be opened with as little as $25. Additional funds may be deposited to either the FLEX or dining plan debit account at anytime.

Information regarding these accounts is sent to matriculating students. For more information about campus retail and food facilities, see the chapter “Campus Life and Activities” in this bulletin.

**Fall and Spring Refunds**

In the case of withdrawal from the university, students or their parents may elect to have tuition refunded or carried forward as a credit for later study according to the following schedule:

<table>
<thead>
<tr>
<th>Withdrawal</th>
<th>Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before classes begin</td>
<td>Full Amount</td>
</tr>
<tr>
<td>During first or second week</td>
<td>80 percent</td>
</tr>
<tr>
<td>During third, fourth, or fifth week</td>
<td>60 percent</td>
</tr>
<tr>
<td>During sixth week</td>
<td>20 percent</td>
</tr>
<tr>
<td>After sixth week</td>
<td>None</td>
</tr>
</tbody>
</table>

Tuition charges paid from grants or loans will be restored to those funds on the same pro rata basis and will not be refunded or carried forward. In the event of death, a full tuition, fees, and residence hall refund will be granted. In case of a call to military service, a full semester's tuition, full purchase price of textbooks from the university's book store, and the pro rata amount of the room charge will be refunded. The outstanding balance of the food service plan will be refunded in case of military service or death.

In the case of dropping special fee courses (e.g., music, art, golf), or of part-time students dropping audit courses, a full refund will be granted students during the drop-add period. Students changing status to part-time are required to request permission at the time of preregistration; therefore, no refunds are granted during the drop/add period or subsequently for changes which involve carrying less than a full-time load.

Because Duke University participates in the Title IV federal aid programs, it follows federal guidelines with respect to the refund and repayment of these funds. All first-time students who withdraw within 60 percent of the enrollment period will have their charges and financial aid adjusted according to the federal regulations. Additional information regarding this procedure may be obtained from the Office of Financial Aid.

**Summer Administrative Withdrawal Charges and Refunds**

*Drop or Administrative Withdrawal Charges.* Students who will not be attending a summer term or course for which they have registered must officially drop the course(s) prior to the beginning of the term whether or not they have paid tuition and fees. (See the section on course changes for the summer term in the chapter “Academic Procedures and Information”.) Students who fail to drop the course(s) prior to the beginning of the term will be charged $150 per course.

*Refunds (Except Study Abroad Programs).* Students who will not be attending a summer term or course for which tuition and fees have been paid are eligible for refunds following these policies:

1. There is a financial obligation of full tuition and fees if the student withdraws from a course(s) or withdraws from the term after the third day.
2. There is a financial obligation of $150 per course if the student officially drops a course(s) or withdraws from the term during the first three days. The health fee is not refunded. (There is no charge for drop/adds that result in no change in course load in the same term.)
3. Full tuition and fees are refunded if the student officially drops a course(s) or withdraws from the term before the first day.

* This policy does not apply to study abroad program students.
Student Aid

Duke University is strongly committed to its financial aid program and, for the four years of undergraduate enrollment, will meet 100 percent of the demonstrated need of each eligible admitted U.S. citizen or eligible non-citizen. The university's aid program includes both merit and need-based scholarships, work-study, and all federal grant and loan programs. Admissions decisions for domestic students are made without reference to a student's application for aid, and students needing assistance are strongly encouraged to apply for financial aid at the same time as for admission. Students awarded financial aid will be notified at the same time they are offered admission.

For the student with demonstrated need, the net cost of an education at Duke University will generally be no greater than that for attendance at any private college or university. It is the intention of the Office of Undergraduate Financial Aid to set each award at a level consistent with a family's ability to meet the costs of attending Duke University. This will be done by taking into consideration the contribution that can reasonably be expected from the student and the family. In 2010-2011, nearly 51.4% of the student body received 125 million dollars in aid of various types. Additional financial aid statistics are available on the university’s financial aid Web site at http://finaid.duke.edu/undergraduate/stats/.

Financial Aid for Entering Freshmen. Candidates should initiate their application for financial aid concurrently with their application for admission. Instructions outlining the specific requirements and deadline dates will accompany application materials. To receive institutional funds, two forms must be submitted, the Free Application for Federal Student Aid (FAFSA) to the federal processor and the PROFILE application to the College Scholarship Service (CSS). Students applying for federal loans and grants and not Duke University aid need to complete only the FAFSA. If a student’s parents are divorced or separated, the custodial parent must submit the PROFILE and FAFSA. The noncustodial parent must submit the CSS Noncustodial Profile Application. The College Scholarship Service will be collecting the noncustodial parent’s information through an online process; details will be e-mailed to applicants by CSS immediately following receipt of the PROFILE application. Students will be asked to submit copies of their and their parents’ Federal Income Tax Returns from the most recent year (all schedules and W2s must be included). Early Decision applicants must submit copies of their tax information directly to the Undergraduate Financial Aid Office. Regular Decision applicants are required to submit their tax information directly to the College Board for processing by the Institutional Documentation Service (IDOC). Students will receive information from the College Board about the IDOC process. All tax information is then sent to Duke electronically by the College Board. Noncustodial parents should submit their tax information directly to Duke's Undergraduate Financial Aid Office.

International students interested in obtaining need-based financial aid must apply for financial aid at the time of admission to be eligible to receive need-based aid in any year of undergraduate study. To apply, students must complete the International CSS Profile online. A Statement of Foreign Earnings for both parents or a copy of the most recently completed tax return for both parents must be submitted directly to the Duke Undergraduate Financial Aid Office. For further information about financial aid for international students, visit our Web site: www.finaid.duke.edu/undergraduate/prospectives/apply/international.html.

Renewal of Financial Aid after the Freshman Year. Each year students must file an application for renewal of need-based financial aid. This application must include a new PROFILE form, a new Free Application for Federal Student Aid, a Noncustodial Parent’s Profile, if appropriate, and a copy of all pages, including schedules and attachments, of the parents’ and student's current federal income tax return. The deadline for the receipt of all application materials by the Financial Aid Office is May 1. All qualified students may receive need-based aid for up to nine semesters (eight semesters fall and spring plus two summer terms).

To have financial aid renewed, a student must meet the continuation requirements outlined in the chapter “Academic Procedures and Information” as appropriate. Students not qualifying for financial aid due to their inability to meet these requirements may appeal directly to the Financial Aid Office. Students holding merit scholarships are required to maintain an average considerably higher than the minimum required for need-based financial aid recipients. Specific details regarding retention standards will be provided to
scholarship winners.

**Summer School Financial Aid.** Financial aid is available for each summer session. Students may choose to attend two summer sessions as part of a ninth semester of aid eligibility. Interested students can obtain more information about summer financial aid, budgets, and eligibility at [http://www.finaid.duke.edu/undergraduate/current/summer/index.html](http://www.finaid.duke.edu/undergraduate/current/summer/index.html).

**TYPES OF FINANCIAL AID**

Gift scholarships or grants, long-term loans, and employment are integral parts of the financial aid program, and some portion of the aid offered an undergraduate is normally in each of these forms.

The work-study opportunity and loan(s) offered as financial aid are considered to be the self-help portion of the award. The standard aid package at Duke provides that the first $2,000 to $7,000 of each student's need be awarded in the form of self-help funds. Funds awarded in excess of this amount will generally be grant funds. This combination of university grant funds and opportunities for self-help enables Duke to extend its resources to a larger number of deserving students.

Duke has a number of scholarships based on merit that are available from personal endowments and corporations. Most are intended for entering freshmen and require no separate application. These scholarships may be based on achievement in a particular field or on an outstanding overall record.

**Merit Scholarships**

The Office of Undergraduate Scholars and Fellows is the home for Duke’s merit scholarship programs. Scholarship holders may apply for need-based aid for any need not met by their scholarship. The scholars are chosen by faculty-driven committees on the basis of the Duke application. All the scholarships in these programs are renewable for eight semesters of undergraduate study for those students meeting the following academic standards: renewable merit scholarships will be continued for freshmen who complete the first year of studies with a 3.0 average or higher. Scholars are required to be enrolled in four full academic credits each semester. Upperclass students must complete each academic year with a 3.2 average or higher. Students failing to meet the required average will be put "on review." Thereafter, students on review must receive a 3.2 average each year to keep the scholarship or fellowship. If a scholar is ineligible to return to Duke for academic reasons, or is suspended or dismissed for disciplinary reasons, he or she will lose the scholarship.

**Alumni Endowed Scholarships.** An Alumni Endowed Undergraduate Scholarship is awarded annually to a Duke applicant who demonstrates superior academic ability, leadership potential and financial need. These awards are given to children or grandchildren of alumni and are renewable annually for those meeting the stated requirements. Each scholar receives tuition, room, board and mandatory fees.

**Angier B. Duke Memorial Scholarships.** The Angier B. Duke Memorial Scholarships, competitively awarded on the basis of academic merit, have been established to encourage the intellectual achievement of men and women by recognizing those who possess outstanding academic and leadership abilities. Candidates are selected on the basis of intellectual performance, creative talent, and promise of being eventual leaders in whatever field of endeavor they choose. The scholarship is a four-year program (eight semesters), and a student's continuation in the program is contingent upon good academic performance. All scholarship holders receive full tuition, room, board, and mandatory fees. All Angier B. Duke Scholars are eligible to participate in a six-week summer study program at Oxford University in England. Under the Oxford program the scholarship pays tuition, single room accommodation, full board, designated excursions for all scholars, and an allowance for transatlantic air fare. Those choosing not to participate in the Oxford program are eligible for a $2,500 grant for an approved independent project. At least one of the four years of the scholarship could be used abroad on an approved program. AB Duke scholars are eligible for research grants up to $5000.

**The Benjamin N. Duke Scholarship Program.** As part of the Benjamin N. Duke Scholarship Fund, these awards recognize and encourage leadership potential and community involvement of students from North and South Carolina. Ten scholarships, valued at full tuition, room, board, and mandatory fees are awarded annually. Additionally the students participate in a domestic and international Summer of Service.
Karsh International Scholarships: These awards are awarded to outstanding students from around the world. They are strictly need-based scholarships and are equal to the demonstrated need of the student. Additionally, they fund three summers of research or research-service opportunities in Durham, throughout the U.S. or abroad, including in the home country.

Reginaldo Howard Scholarships. These scholarships are awarded annually to freshmen of African heritage who demonstrate academic excellence and outstanding leadership potential. Five scholarships equal to full tuition, room, board, and mandatory fees are awarded each year. Scholarships are available for the eight semesters of undergraduate study as long as the student maintains the academic average specified for renewal.

Robertson Scholars. Half of the scholars matriculate at the University of North Carolina (UNC)-Chapel Hill, and half at Duke University. All exhibit exceptional leadership potential, commitment to public service, and proven interest in the diversity of peoples and cultures both within the United States and beyond its borders. The program is designed so that every Robertson Scholar will have dynamic intellectual homes at two superb universities—Duke and UNC-Chapel Hill. Robertson scholars will receive full tuition, room, board, and mandatory fees at UNC-Chapel Hill or Duke, summer community-building and enrichment opportunities in the United States and abroad, support for research and related travel, and a top-of-the-line laptop computer.

Trinity Scholarships. Awarded to North Carolinians of exceptional ability, these scholarships are named to honor the fact that Duke University was originally named Trinity College. Trinity scholarships provide each winner an award equal to the value of tuition, fees, room, board, and the cost of a summer program.

The University Scholars Program. The University Scholars Program is an interdisciplinary, intergenerational community of undergraduate, graduate, and professional school scholars. Undergraduate University Scholars are exceptional students who have also demonstrated, through official financial-aid applications, that they need scholarship support to achieve their academic ambitions. Undergraduate University Scholars receive a full-tuition scholarship, room, board, mandatory fees, assistance for additional demonstrated need, and support for a summer abroad or research project. There is no separate application; interested Duke applicants are urged to file all financial aid forms as early as possible.

Gift Scholarships.

The following are among the named gift scholarships offered through Duke University.

W. N. Reynolds Memorial Scholarships. Recipients of these awards are students with outstanding ability and/or need who show promise of constructive leadership. In considering candidates for the awards, consideration will be given in the following order: (1) children of employees of R. J. Reynolds Tobacco Company or any of its affiliates or subsidiaries; (2) children of families residing in Forsyth County, North Carolina; and (3) other candidates who are residents or natives of North Carolina. There are a number of awards available for each freshman class with a minimum value of $500.

United Methodist Scholarships. A number of United Methodist Scholarships are available on a basis of demonstrated need to Methodist students who have given evidence of leadership in their local Methodist Youth Fellowship groups.

Alice M. Baldwin Scholarships. One or more of these scholarships, varying in amount, are awarded to women who are rising seniors in Trinity College of Arts and Sciences on the basis of scholarship, character, leadership, and need.

Panhellenic Scholarship. A scholarship is awarded to an upperclass woman in Trinity College of Arts and Sciences on the basis of scholarship, character, leadership, service, and need.

J. A. Jones Memorial Scholarships. These scholarships, sponsored through the Jones Fund for Engineering, are awarded to engineering students whose outstanding academic and personal qualifications suggest that they will become leaders in a technological society. The awards may be up to $8,000 based on merit criteria set by the School of Engineering and financial need.
**Robert H. Pinnix Scholarships.** The Robert H. Pinnix Scholarships are awarded annually to two upperclassmen enrolled in the Pratt School of Engineering. The award is based upon demonstrated ability, excellence in engineering, and financial need.

**Richard Miles Thompson Scholarships.** The Richard Miles Thompson Scholarships are awarded annually to two upperclass students enrolled in the Pratt School of Engineering. The awards are based upon academic merit and demonstrated financial need.

**The William O' Connor Memorial Scholarship.** This music scholarship of up to $2,500, established by the Mary Duke Biddle Foundation in honor of William O'Connor and in appreciation for his many years of service to the foundation, is awarded to student of a string instrument or organ.

**Air Force ROTC College Scholarship Program.** Students can apply for three-year scholarships during their freshman year and two-year scholarships during their sophomore year. Scholarships are available to qualified students who major in most fields, primarily scientific or engineering. The scholarships range from $15,000 up to full tuition, fees, and textbook reimbursement, and a monthly tax-free allotment.

**Army ROTC Scholarship Program.** All Duke students are eligible to apply for Army ROTC scholarships equal to full tuition. Awarded without regard to academic major, these grants pay a portion of tuition, fees, and textbook/equipment allowance of $900 in addition to providing a tax-free monthly stipend of $300-500 per month for 10 months. Nonscholarship Advanced Course cadets also receive the $250-400 monthly stipend. Commissioned service, following graduation, can be either on active duty or with the reserve forces as determined by the Secretary of the Army. High school seniors must apply not later than November 1 of their senior year. Current Duke students can apply at any time. Additional information concerning Army ROTC scholarships is available from the professor of military science.

**Navy ROTC College Scholarship Program.** This program provides for up to four years' tuition and textbooks, laboratory fees, and a monthly stipend. These scholarships, based upon academic achievement, leadership potential, and overall performance, can be awarded at any stage of the student's college career through either a nationwide selection process or by the professor of naval science at the university. In addition, two other two-year scholarships are available to rising juniors: one leads to a career in nuclear power, and the other follows a summer attendance at the Naval Science Institute at Newport, Rhode Island. For further information on any of the above scholarship programs, contact the professor of naval science, (919) 660-3700.

**Kravis Scholarships.** The endowment, established in 1997, provides need-based support for disadvantaged students. Assistance is given to students enrolled in Trinity College of Arts and Sciences, with preference to African Americans. Kravis Scholars will receive financial aid for four years, which includes replacement of about one-half of the loan debt each year, and an award for one Duke-sponsored summer study abroad program.

**Gross Scholarship.** The endowment, established in 2005, provides whole or partial scholarships to undergraduate students who are, or shall be at the time of receipt of the scholarship, enrolled in Trinity College of Arts and Sciences or Pratt School of Engineering at Duke University. Gross scholarship recipients will come from families with income below the median of students receiving financial aid at Duke the previous year, using the same measurement standards applied by the Office of Financial Aid.

**The Janet B. Chiang Memorial Scholarship Fund.** This fund was created by the family and friends of Janet B. Chiang. An award is made annually to a student who has demonstrated strong leadership qualities and a strong interest in his or her Asian cultural heritage.

**Emma A. Sheafer Drama Scholarships.** These scholarships are awarded to talented prospective drama students who would not be able to attend Duke University without financial assistance. Awards shall be made to a single individual or to several qualified students in need, with first preference to students from the New York metropolitan area. Interested incoming students should apply to the director of the program.

**The Steven and Toby Korman Drama Scholarships.** The scholarship shall be awarded annually to a student(s) with demonstrated need who has demonstrated exceptional talent and ability in the field. Interested students should apply to the director of the program.

**Kohler Scholarships in Drama.** Several awards each year are given to needy students active in the Drama Program. Interested students should apply to the director of the program.
The Beth Gotham Semans Drama Scholarships. These awards are made annually to currently enrolled undergraduate students who have been and continue to be active in drama, with preference given to African American and other minority students. Applicants need not be drama majors but must have demonstrated need and demonstrate significant involvement in dramatic activities. Decisions are made by a special committee appointed by the Drama Program.

Alumni Endowed Scholarships. Three full-tuition per year Alumni Endowed Undergraduate Scholarships are awarded to needy students who demonstrate superior academic ability and leadership potential. These awards are renewable annually for those meeting the stated requirements. Although not restrictive, preference is given to children of alumni.

Scholarships for Carolina Residents

Carolinas Honors Scholarships. Carolinas Honors Scholarships, worth $5,000 each, are awarded each year to fifteen outstanding students from North or South Carolina who demonstrate financial need. The scholarships are applied toward the loan and work-study portion of the financial aid package and are renewable for four years.

North Carolina Math Contest. Upon enrolling at Duke, the top student finishing in the top ten in the North Carolina Math Contest taken as a high school senior is eligible to receive a scholarship equal to the amount of tuition. This scholarship is available for each of the four years of undergraduate enrollment as long as the student maintains the specified average. Winners must have applied to and been accepted by Duke University.

The Perry Family Scholarship. Awarded to students from Winston-Salem and the Forsyth County area, this scholarship is awarded every other year. Recipients of the scholarship will be required to demonstrate high academic achievement as well as leadership and/or involvement in extracurricular activities. The scholarship is available for four years if the student meets the specified academic requirements.

J. Welch Harriss Scholarships. Recipients of these scholarships will receive up to demonstrated need levels based on merit criteria. These awards are made to entering freshmen who have achieved outstanding academic records. They are renewable each year as long as the student maintains the required average. Consideration will be given in the following order: (1) students from High Point, North Carolina; (2) students from Guilford County, North Carolina; and (3) students from North Carolina. (Recipients are chosen by the Office of Undergraduate Admissions at the time of application.)

Alice Mack Scholarship. The endowment, established in 1996, provides scholarship support for undergraduate students in Trinity College of Arts and Sciences and Edmund T. Pratt Jr. School of Engineering and for graduate students enrolled in any of Duke University’s professional schools or programs. First preference shall be given to needy students from Mooresville, North Carolina, and then to needy students from Iredell County, North Carolina. Awards shall be determined in accordance with University guidelines then in use and may include grants and grants-in-lieu of loans. Should there be no needy graduate or professional student from the designated area, that portion of the income (25%) shall be directed to the A.F. Calabrese Endowment in the Fuqua School of Business.

Alyse Smith Cooper Scholarships. Each year scholarships of various amounts are awarded to students demonstrating both merit and need. Preference is given to students from Alamance County, North Carolina.

Braxton Craven Endowed Scholarships. Recipients of these scholarships will receive an amount equal to the current tuition at Duke. Braxton Craven scholars will be chosen on the basis of outstanding academic and extracurricular achievement and need. First preference is given to students from North Carolina. The scholarships are renewable, provided that the recipient complies with the specified academic requirements.

The John M. and Sally V. Blalock Beard Scholarship. These scholarships are awarded annually to outstanding students from the Wake County area of North Carolina who major in English or the history of the United States. These awards are based on financial need, scholarship, character, and academic achievement.
Loans.

The loan programs that are available to students through Duke University are listed below:

*The Federal Perkins Loan* is funded by the federal government and administered by Duke University. The interest rate for this loan is fixed at 5%. This is a need-based loan and only awarded to those students with demonstrated need. If a student is eligible for a Perkins Loan based on their Free Application for Federal Student Aid (FAFSA) and other aid application documents, the Perkins Loan will be included in the student’s award letter from the Financial Aid Office.

*The Federal Direct Stafford Loan* is available to students who may borrow up to $3,500 as freshmen, $4,500 as sophomores, and $5,500 as juniors and seniors. Students who demonstrate need by filing the Free Application for Federal Student Aid (FAFSA) may qualify for a Subsidized Stafford Loan. The interest rate for the Subsidized Stafford is 6.8%, and interest does not accrue while the student is enrolled at least half-time in an accredited degree program. Students not demonstrating need may borrow through the Unsubsidized Stafford Loan program. The interest rate for the loan is 6.8% and interest accrues while the student is in school. The student may choose to capitalize the interest or pay it as it accrues. Repayment for both loans begins six months after the student is no longer enrolled at least half-time as a degree candidate at an accredited institution. If a student is eligible for a Federal Direct Stafford Loan, it will be included in the student’s award letter from the Financial Aid Office.

*The Federal Direct Parent Loan for Undergraduate Students (PLUS)* allows qualified parents to borrow up to the cost of education minus other financial aid. The proceeds from this loan may only be used to pay the current year’s costs of attendance. The interest rate is 7.9% and repayment of this loan begins within 60 days after the final disbursement for the academic year. Borrowers who have a student enrolled at least half-time may be eligible for deferment of payment. Federally mandated credit checks are required for all PLUS applicants.

*Tuition Plans.* Many families finance a college education with the assistance of an insured tuition payment plan regardless of whether they receive financial assistance from Duke. The university is pleased to offer a ten- or twelve-month payment plan through Tuition Management Systems. More information can be obtained from the bursar’s office or by visiting [https://duke.afford.com](https://duke.afford.com).

*Employment.* Most financial aid recipients are offered work study as part of their aid package. All students interested in working during the school year should review the jobs posted at [http://dukelist.duke.edu](http://dukelist.duke.edu). Every effort will be made to help students find jobs consistent with their interests. All earnings are paid directly to the student for hours worked.

Duke University also expects that students receiving financial aid will work during the summer. In the year before entering college, a freshman should save a minimum of $2,100 for use during the first year of college. In subsequent years, minimum student earnings will be $2,400 for sophomores, $2,500 for juniors, and $2,600 for seniors.

Duke University also offers subsidized employment opportunities to many students not qualifying for need-based financial aid. Interested students should submit the appropriate aid applications. Additional information about how work study works, types of work study, and how to apply can be found at: [http://finaid.duke.edu/workstudy/index.html](http://finaid.duke.edu/workstudy/index.html).
**Definition of Terms**

The following portion of this bulletin, arranged alphabetically, includes courses of academic departments, programs, sections, and institutes, as well as categories of courses. Details are provided in the individual entries, which indicate whether a major, a minor, and/or a certificate is available in that particular field. (A certificate, offered in some programs, is not a substitute for a major but is a supplement, confirming that a student has satisfied the requirements of that program.)

Courses taught in recent years or scheduled for 2012-2013 are included in this chapter with full descriptions. For courses that will be offered in 2012-2013, also consult the online ACES Schedule of Courses.

Introductory-level courses are numbered below 200; mid to advanced-level courses are numbered 200 and above; courses numbered from 400 through 499 are primarily for seniors; courses numbered 500-699 are graduate level courses open to advanced undergraduate students. (See the section on course load and eligibility in the chapter “Academic Procedures and Information.”) Special Topics courses may be repeated (if the subtitles of the courses are different), subject to any limitation set forth in the course description in this bulletin.

The following symbols, suffixed to course numbers, identify small classes: S, seminar; P, preceptorial; T, tutorial; D, discussion section (for a larger class). The L suffix indicates that the course includes laboratory experience. The FS suffix indicates Focus program courses, and the A suffix identifies courses that are taught away from Duke’s Durham campus, e.g. study abroad or domestic away programs. C-L: denotes a course that is cross-listed or a program under which a course is also listed.

Curriculum codes appear at the end of course titles. An explanation of the curriculum codes follows:

**Areas of Knowledge:**
- Arts, Literatures, and Performance (ALP)
- Civilizations (CZ)
- Natural Sciences (NS)
- Quantitative Studies (QS)
- Social Sciences (SS)

**Modes of Inquiry:**
- Cross-Cultural Inquiry (CCI)
- Ethical Inquiry (EI)
- Science, Technology, and Society (STS)
- Foreign Language (FL)
- Research (R)
- Writing (W)
Aerospace Studies—Air Force ROTC (AEROSCI)

Lieutenant Colonel Oertel, Director of Undergraduate Studies; Assistant Professor Walsh, Captain, USAF, Commandant of Cadets; Assistant Professor Fesel, Captain, USAF, Unit Admissions Officer

Eligibility Requirements. All freshmen and sophomores are eligible to enroll in the General Military Course in the Air Force Reserve Officer Training Corps. For enrollment in the Professional Officer Course, the student must have completed successfully the General Military Course and a field training encampment; must execute a written agreement with the government to complete the Professional Officer Course; must be sworn into the enlisted reserve; and must agree to accept a commission in the U.S. Air Force upon graduation. Students in the General Military Course and Professional Officer Course are required to attend two hours of leadership laboratory each week. All courses, except 99L, are open to all other students with consent of instructor.

General Military Courses

99L. Leadership Laboratory. Instruction in drill and ceremonies, wearing the uniform, giving commands, and other leadership activities. Mandatory for all Air Force ROTC cadets. Must be repeated each semester. Satisfactory/Unsatisfactory grading only. Instructor: Staff.

First Year


Second Year

201. The Evolution of US Air and Space Power. STS A survey course designed to examine the general elements and employment of air and space power, from an institutional doctrinal and historical perspective. From the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples to demonstrate the evolution of what has become today's USAF air and space power. Air Force Core Values and communications skills. Leadership Laboratory mandatory for AFROTC cadets. Instructor: Staff. Half course.


Professional Officer Courses

All students selected to continue in Aerospace Studies must pursue the following courses.

Third Year

301S. Air Force Leadership and Management. EI Leadership and management fundamentals, professional knowledge, Air Force doctrine, leadership ethics, and communication skills required of an Air Force junior officer. Training philosophy, counseling/feedback, leadership vs. management, leadership principles and perspectives, effective delegation, and written and verbal communication skills. Laboratory required for AFROTC cadets. Instructor: Staff. One course.
302S. Air Force Leadership and Management. EI Continuation of Aerospace Studies 301S. Principle centered/situational leadership, case studies of different leadership styles, ethical behavior, effective management tools to evaluate and improve processes, building and refining written and verbal communication skills from 301S. Laboratory required for AFROTC cadets. Instructor: Staff. One course.

Fourth Year

401S. Defense Studies. EI The national security process, regional studies, advanced leadership ethics, and Air Force doctrine. The military as a profession and current issues affecting military professionalism. American tradition in foreign policy, cold war challenges, the relationship with the president and Congress, the chain of command, national security issues, and advanced level briefings and papers. Leadership Laboratory mandatory for AFROTC cadets. Instructor: Staff. One course.

402S. Defense Studies. EI Continuation of Aerospace Studies 401S. Officership, ethics, military law, Air Force issues, roles and missions, Air Force and joint doctrines, preparation for active duty, and refining communications skills from 401S. Leadership Laboratory mandatory for AFROTC cadets. Instructor: Staff. One course.

African and African American Studies (AAAS)

Professor Darity, Chair; Associate Professor Lubiano, Assoc. Chair and Director of Undergraduate Studies; Professors Baker, Bonilla-Silva, Crichlow, DeFrantz, Dubois, French, Holloway, James, Matory, Neal, Piot, and Powell; Associate Professors Glymph, Haynie, Holland, Holsey, Lubiano, Moten, and Wallace; Associate Research Professor Royal; Assistant Professors Hall, Makhulu, and Milian

A major or a minor is available in this program.

The program in African and African American Studies provides students with an interdisciplinary approach to the field, within which they may focus on Africa or the Americas. The program encourages study abroad in Africa, available through the Office of Study Abroad.

The African and African American Studies courses are listed below. (Full descriptions of cross-listed courses may be found in the bulletin course listings of the particular department or program cited in the cross-listing, for example, Music 74.) In addition, Arabic language courses are taught in the Asian and Middle Eastern Studies Program, and other relevant language courses in the Department of Romance Studies.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

102. Introduction to African and African American Studies. CCI, CZ, SS A range of disciplinary perspectives on key topics in African American Studies: slavery and abolitionism, theories of race and racism, gender and race, the era of Jim Crow, cultural expressions, political and intellectual thought, African American freedom struggles from the seventeenth through the twentieth centuries, and race and public policy. Instructor: Staff. One course.


104S. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 101S; also C-L: Literature 143S, Spanish 160S

109S. African Mbira Music: An Experiential Learning Class. ALP, CCI, CZ One course. C-L: see Music 133S; also C-L: Cultural Anthropology 133S

131. The Third World and the West I. CCI, CZ One course. C-L: see History 131; also C-L: International Comparative Studies, Latin American Studies, Marxism and Society

132. The Third World and the West II. CCI, CZ One course. C-L: see History 132; also C-L: International Comparative Studies, Latin American Studies, Marxism and Society
133S. Gateway Seminar: Civil Rights and Asian Americans. CCI, CZ, EI, R, SS One course. C-L: see History 183S; also C-L: Asian & Middle Eastern Studies 187S

134. Old Worlds/New Histories, 500-1500 CE. CCI, CZ, SS One course. C-L: see History 105; also C-L: Marxism and Society

140. Introduction to Jazz. ALP, CCI One course. C-L: see Music 140

140D. Introduction to Jazz. ALP, CCI One course. C-L: see Music 140D

190. Special Topics. Topics vary from semester to semester. Instructor: Staff. One course.


190FS. Focus Program Seminars: Special Topics. Topics vary semester to semester. Open only to students in the Focus Program. Instructor: Staff. One course.

190S. Special Topics. Seminar version of African and African American Studies 190. Instructor: Staff. One course.

206. Africans in America to the Civil War. CCI, CZ, EI One course. C-L: see History 346; also C-L: Documentary Studies

207. African Americans Since the Civil War. CCI, CZ, EI One course. C-L: see History 347; also C-L: Documentary Studies

209. Afro-Brazilian Culture and History. CCI, CZ, R One course. C-L: see History 327; also C-L: Portuguese 260, Latin American Studies

210. History and Modern Africa. CCI, CZ, SS One course. C-L: see History 204; also C-L: International Comparative Studies, Women's Studies

211. History of Africa: From Antiquity to Early Modern Times. CCI, CZ, SS One course. C-L: see History 203; also C-L: International Comparative Studies, Islamic Studies, Women's Studies

212. Europe's Colonial Encounter, 1492-1992. CCI, CZ, EI One course. C-L: see History 312; also C-L: Canadian Studies 312, Ethics Courses Offered Through Other Departments

214. South African History, 1870 to the Present. CCI, CZ, EI, SS One course. C-L: see History 208; also C-L: Political Science 221

215S. Slave Society in Colonial Anglo-America: The West Indies, South Carolina, and Virginia. CCI, CZ, R One course. C-L: see History 320S; also C-L: International Comparative Studies

217S. The Atlantic Slave Trade. CCI, CZ, R One course. C-L: see History 316S; also C-L: International Comparative Studies 209S, Latin American Studies

218. The Caribbean, 1492-1700. CCI, CZ One course. C-L: see History 318; also C-L: International Comparative Studies, Latin American Studies

219. The Caribbean in the Eighteenth Century. CCI, CZ One course. C-L: see History 319; also C-L: International Comparative Studies 263, Latin American Studies

222. Dance and Religion in Asia and Africa. ALP, CCI, CZ One course. C-L: see Dance 367; also C-L: Religion 244, International Comparative Studies 214

223. African American Literature. ALP, CCI, R One course. C-L: see English 266

224. African American Literature. ALP One course. C-L: see English 276

225S. Documenting Black Experiences. ALP, CCI One course. C-L: see Documentary Studies 350S; also C-L: Arts of the Moving Image 214S, Cultural Anthropology 262S, Public Policy Studies 387S

226. Crime and the City from Dickens to The Wire. ALP, CCI, EI, SS Compares representation of crime and the city in two key "texts": Charles Dickens's "Oliver Twist" and the HBO television series, "The Wire." Juxtaposes the social and political contexts to which each text refers, paying particular attention to the nature and causes of criminal activity therein. Explanations emphasizing individual or personal responsibility will be
contrasted to those that take structural factors into account, including urban housing, public health, child labor, public education, poverty and its relief, urban governance, as well as the criminal justice system. Instructor: Thorne. One course. C-L: History 313

227. African American Art. ALP, CCI, CZ, R One course. C-L: see Art History 283

228. Art, Architecture, and Masquerade in Africa. ALP, CCI, CZ, R One course. C-L: see Visual and Media Studies 208; also C-L: International Comparative Studies 352

229. Contemporary Performance. ALP, R One course. C-L: see Dance 208; also C-L: Theater Studies 208, Art History 229

230. The South in Black and White. ALP, CCI, CZ One course. C-L: see Documentary Studies 326; also C-L: History 358

231S. Freedom Stories: Documenting Southern Lives and Writing. ALP, CCI, CZ One course. C-L: see Documentary Studies 320S; also C-L: History 356S

232. Modern Africa through Film. ALP, CCI, CZ One course. C-L: see History 206; also C-L: International Comparative Studies 353

236S. Civil/Human Rights Activism: In the Spirit of Pauli Murray. ALP, CCI, CZ, R One course. C-L: see Documentary Studies 347S; also C-L: Cultural Anthropology 246S

238S. Behind the Veil: Methods. CCI, CZ, R One course. C-L: see Documentary Studies 323S; also C-L: History 353S

240. The Modern Caribbean after Emancipation. CCI, CZ One course. C-L: see History 321

242S. Race, Gender, and Sexuality. CCI, SS One course. C-L: see Women's Studies 364S; also C-L: Study of Sexualities 264S

243. The Civil Rights Movement. CCI, CZ, EI, SS One course. C-L: see History 348; also C-L: Ethics Courses Offered Through Other Departments

244. Racial and Ethnic Economic Inequality: A Cross National Perspective. CCI, EI, SS One course. C-L: see Public Policy Studies 294; also C-L: Economics 248

246. Comparative Race and Ethnic Studies. CCI, EI, R, SS One course. C-L: see Sociology 316; also C-L: Children in Contemporary Society, Latino/a Studies in the Global South, Marxism and Society

247S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: Arts of the Moving Image 246S, International Comparative Studies 320S

248. Psychology of Ethnicity and Context (D). CCI, SS One course. C-L: see Psychology 238; also C-L: Children in Contemporary Society, Global Health

251. The Anthropology of Race. CCI, EI, SS One course. C-L: see Cultural Anthropology 208

257. Introduction to Racial and Ethnic Minorities in American Politics. CCI, SS One course. C-L: see Political Science 205

257D. Introduction to Racial and Ethnic Minorities in American Politics. CCI, SS One course. C-L: see Political Science 205D


263. Black Europe: Race, Ethnicity and Diaspora in Contemporary Europe. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 263


270. Religion in Black America. CCI, CZ One course. C-L: see Religion 236

270S. Religion in Black America. CCI, CZ One course. C-L: see Religion 236S
271. **Africa and Humanitarians.** CCI, CZ, EI One course. C-L: see History 207; also C-L: International Comparative Studies 351, Islamic Studies

274S. **Islam in the Americas.** CCI, CZ, SS, W One course. C-L: see Religion 384S; also C-L: History 351, Islamic Studies

276. **Religion and Race.** CCI, CZ, SS One course. C-L: see Religion 276

281. **African American Intellectual History, Twentieth Century.** CCI, CZ, W One course. C-L: see Cultural Anthropology 321; also C-L: History 350

290. **Special Topics.** Topics vary from semester to semester. Instructor: Staff. One course.

290-1. **Special Topics in Performance.** Topics vary from semester to semester. Instructor: Staff. One course.

290-3. **Special Topic in an Individual African American Author.** ALP, CCI, R One course. C-L: see English 390-3

290-4. **Special Topics in African American Literary Genres.** ALP, CCI, R One course. C-L: see English 390-4


290S. **Special Topics.** Seminar version of African and African American Studies 290. Instructor: Staff. One course.


307. **Development and Africa.** CCI, CZ, SS Addresses the vexed issue of economic development in Africa - its many failures, its occasional successes - from the early colonial period to the present. Focuses especially on the transition from the 1960s "modernizing" moment to the millennium projects and humanitarian aid of the present. Will read the works of development experts, World Bank executives, anthropologists and historians, asking why this massively financed project has experienced such failure and exploring what can be done. Instructor: Piot. One course. C-L: Cultural Anthropology 307, Public Policy Studies 207, International Comparative Studies, Marxism and Society

308S. **Fugitive Slave (Maroon) Communities in New World Slave Societies.** CCI, CZ Also taught as History 490S or 196S. Instructor: Gaspar. One course. C-L: International Comparative Studies

310. **African American Women and History.** CCI, CZ The history of African American women in the United States. The production of discourses of gender, race, and class discrimination that evolved specifically to confront the presence of African American women first as slaves and later as free women. The ways in which prevalent ideas about race, race relations, and gender coalesced around images of the African American women and African American women's struggles to assert independent identities. Multidisciplinary readings. Instructor: Glymph. One course. C-L: History 349, Women's Studies 237


313S. **Africa and the Slave Trade.** CCI, EI, SS History of the Atlantic slave trade in Africa, various responses to it, debates regarding its impact, ways it is remembered today. Instructor: Holsey. One course. C-L: Cultural Anthropology 260S

314. **Representing Slavery.** ALP, CCI, EI, SS Examines both scholarly and popular representations of Atlantic slave trade in Africa and the diaspora. Uses first-person narratives, scholarly texts, documentaries, novels and films to debate African agency in slave trade, effects of slave trade on the New World and Europe, nature of slave life, slave resistance, and causes of abolition. Explores role of slavery in collective memory,

324S. Social Facts and Narrative Representations. ALP One course. C-L: see Literature 330S

329. The Black Atlantic. ALP, CCI, CZ One course. C-L: see Art History 383; also C-L: International Comparative Studies 226S

330. Film and the African Diaspora. ALP, CCI, SS Theories and issues of representation and practice, with specific attention to culture, nation, and gender in contemporary and historic black films and filmmakers of Africa and the Diaspora. Instructor: Lubiano. One course. C-L: Visual and Media Studies 228, Women's Studies 250, Arts of the Moving Image

331. Black Popular Culture. CCI, CZ The production and circulation of African American popular cultural forms including, but not limited to, popular literature, music, film, television, and art in the twentieth century. The ways in which African American popular culture may reflect the particular values and ethos of African Americans and the larger American society. Topics may include black cinema, blues and jazz music, black nationalism, hip hop, black social movements, blacks and sports culture, popular dance, and the cultural history of black style. Instructor: Lubiano, Wallace, and staff. One course. C-L: Visual and Media Studies 230

332S. Black Theater Workshop. ALP, CCI One course. C-L: see Theater Studies 243S

333S. The Wire. CCI, EI, SS This course covers all 60 episodes of the HBO series "The Wire," which ran for five seasons. Described as "socially robust" by one television scholar, the series dramatizes the real world experiences of poor, mostly African American, residents of Baltimore struggling to survive by way of the underground drug economy, while city officials and the police department strive to bring the illegal trade in check. The course will bring all 60 episodes into conversation with relevant texts in anthropology, sociology, cultural geography, queer and literary theory. Requirements include weekly blog entries and a final keyword project. Instructor: Makhulu. One course. C-L: Cultural Anthropology 333S

334. Sampling Soul. ALP, CCI, EI, SS Examines how the concept of "Soul" has functioned as raw data for contemporary forms of cultural expression. Considers the broader cultural implications of sampling, in the practices of parody and collage, and the legal ramifications of sampling within the context of intellectual property law. Course also offers the opportunity to rethink the concept of archival material in the digital age. Instructor: Neal. One course.

340. Culture and Politics in Africa. CCI, CZ, SS Explores the politics, history and culture of societies and nation-states across the continent while also critiquing Euroamerican discourses, images, and theories about Africa and Africans. Readings consist of not only anthropological texts- some classic, and some experimental and off-beat- but also media accounts, novels and historical texts. Instructor: Piot. One course. C-L: Cultural Anthropology 242, Visual and Media Studies 229, International Comparative Studies, Marxism and Society

341S. Race in Durham. CCI, R, SS Individual student research, archival and interview-based, on the history and current status of ideas about race, racial discrimination, and race relations in the city of Durham, as a window into one regional and local pattern that illuminates larger patterns of race in the U.S. Open to undergraduates at both NCCU and Duke. Instructor: Hall. One course.

350S. U.S. Critical Studies of Race, Law and the Literary Imagination. CZ, SS This course explores the intersectionalities of race and law. We'll focus on issues like sexuality, adoption, and marriage, the era and residue of Jim Crow, as well as the meaning and intent of affirmative action in educational contexts. We'll use case law and some literary fiction to expose and explore these issues with a particular interest in understanding how race matters in the construction of US citizenship. Instructor: Holloway. One course.

352. Pigging Out: The Cultural Politics of Food. CCI, EI, SS Examine cultural influences of food, linking class, geography, ethnicity to food practices. Investigates link between overeating and cheap food, under-eating and expensive food; discrepancy between cost and quality; changing diets in US and elsewhere; current debates regarding food production, specifically in the U.S., Americas, Africa and Asia. Discussion of Cargill companies’ restrictions on spread of their hybrid grains; questionable agricultural practices, e.g. animal
cruelty, overuse of pesticides, condition of migrants. Environmental policies examined in relation to pursuit of such industrial agricultural practices. Will include hands-on experiments with food preparation and tasting. Instructor: Crichlow. One course. C-L: Sociology 374, International Comparative Studies 206


356. Magical Modernities. CCI, SS Examination of competing tendencies in modern society across cultural contexts and historical time periods concluding with close attention to the present: the secularism linked to increased rationalization (and the rise of the modern state), and persistence of beliefs in the supernatural. Readings on beliefs in magic and the occult drawing attention to overlap between magical phenomena and the workings of capitalism in our contemporary world. Several short response papers and a final project (written, performed, filmed). Instructor: Makhulu. One course. C-L: Cultural Anthropology 225

381. Urban Education. CCI, SS An interdisciplinary examination of contemporary educational problems in American cities, with particular attention to race and class, and the formation of public policy for urban schools and school reform. Instructor: Payne. One course. C-L: Education 347, Sociology 336, Children in Contemporary Society

390. Special Topics. Topics vary from semester to semester. Instructor: Staff. One course.

390L. Special Topics. Laboratory version of African and African American Studies 390. Topics vary semester to semester. One course. Topics course. Instructor: Staff. One course.


391. Independent Study. Individual research and reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to juniors and seniors. Consent of both instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to juniors and seniors. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.


407S. Capstone Seminar: Globalization, Women, and Development. CCI, CZ, R, SS, STS One course. C-L: see History 454S; also C-L: International Comparative Studies 412S, Women's Studies 412S

408S. Capstone Seminar: Post-Civil Rights America: The Search for Social Justice, 1968-Present. CZ, EI, R One course. C-L: see History 482S


410S. Francophone Literature. ALP, CCI, FL One course. C-L: see French 417S; also C-L: Asian & Middle Eastern Studies 202S, International Comparative Studies 430S, History 387S, Canadian Studies, Latin American Studies

420S. The Role of Race and Culture on Development (D, P). CCI, SS One course. C-L: see Psychology 435S

425S. Cidadania, Cultura, e Participacao/Citizenship, Culture, and Participation. ALP, CCI, CZ, EI, R One course. C-L: see Portuguese 410S
465S. Global Cities. CCI, EI, SS Examination of new ways of living and surviving in cities across the world - new urbanization as distinct from the "new urbanism" - in context of the decline of the industrial economy, the offshoring of work, the creation of network cities and so-called "global cities." Explores impact of increased urbanization, linked to "post-wage" work, informalization, and inequality. Addresses dilemmas of alternative forms of life through "cases," including cities in the global North and South, varied "urban" schools, their theories and methodologies. Instructor: Makhulu. One course. C-L: Cultural Anthropology 465S, International Comparative Studies 465S


495. Distinction Program Sequence. Research for the development of thesis. Open only to senior majors. Consent of both instructor and director of undergraduate studies required. Instructor: Staff. One course.

496. Distinction Program Sequence. Continuation of African and African American Studies 495 Open only to senior majors. Consent of both instructor and director of undergraduate studies. Instructor: Staff. One course.

499S. Senior Seminar. Open to seniors majoring in African and African American Studies and to others with consent of instructor. Instructors: Staff. One course.

515S. Race, Class, and Gender: A Social History of Modern (1750-present) Britain. CCI, CZ, EI, SS One course. C-L: see History 505S; also C-L: Women's Studies 509S

520S. Harlem Renaissance. ALP, CCI, CZ, R One course. C-L: see Art History 554S

530S. Third Cinema. ALP, CCI, EI, SS, STS One course. C-L: see Literature 613S; also C-L: International Comparative Studies 613S, Latin American Studies 613S, Arts of the Moving Image 644S

540S. Seminar in Asian and Middle Eastern Cultural Studies. CZ One course. C-L: see Asian & Middle Eastern Studies 505S; also C-L: Literature 530S

541S. Monuments and Memory: Public Policy and Remembrance of Racial Histories. ALP, CCI, EI, SS One course. C-L: see Public Policy Studies 562S

544S. Race and American Politics. CCI, SS One course. C-L: see Political Science 525S; also C-L: Public Policy Studies 526S

545S. Race, Racism, and Democracy. CCI, SS, W One course. C-L: see Cultural Anthropology 535S

547S. Minority Mental Health: Issues in Theory, Treatment, and Research. CCI, SS One course. C-L: see Psychology 606S

548S. Poverty, Inequality, and Health. EI, R, SS One course. C-L: Public Policy Studies 644S

549S. Schooling and Social Stratification. CCI, SS One course. C-L: see Public Policy Studies 542S; also C-L: Education 542S

551S. Race and Ethnicity. CCI, EI, SS One course. C-L: Public Policy Studies 529S

575. Justice, Law, and Commerce in Islam. CZ, EI One course. C-L: see Religion 660; also C-L: Medieval and Renaissance Studies 659, International Comparative Studies, Islamic Studies

589S. Black Visual Theory. ALP, CCI, CZ, EI, R One course. C-L: see Visual and Media Studies 555S

590S-5. Topics in African Art. ALP, CZ One course. C-L: see Art History 590S-5; also C-L: International Comparative Studies

594S. Cultural (Con)Fusions of Asians and Africans. CCI, CZ, SS This course examines how people lay claims to belonging as citizens of nation-states. Focusing primarily on African and Indian descended populations in the Caribbean and the Pacific, we investigate how these populations invoke colonial constructions to reinvent themselves and work to negotiate their racialized identities in these shared communities. We will consider the construction of histories and explore the general cultural politics that...
sustain and bolster claims of authenticity and belonging and unbelonging within these national spaces. What sorts of sociocultural and political strategies are deployed by such people to exclude others even as they connect across these troubling divides. Instructor: Crichlow. One course. C-L: Cultural Anthropology 594S, Latin American Studies 594S, Sociology 594S

620S. AfroFuturism. ALP Explores Afrofuturism, a literary and cultural aesthetic imagining how people of color project themselves into narratives of the future. Investigation of Science fiction, fantasy literature, music, artworks, music videos, and dance to trace the concept of an Afrofuturist point of view. Creation of Afrofuturist media and performances. Artists considered include writers Samuel R. Delany and Andrea Hairston; musicians Parliament-Funkadelic and Sun Ra; filmmaker Hype Williams; performers Janelle Monae and Flying Lotus. Instructor: DeFrantz. One course. C-L: Dance 535S, Theater Studies 535S, Visual and Media Studies 524S

645S. African Modernities. CCI, SS Encounters between African societies and global forces, including colonialism, capitalism, development initiatives. Instructor: Holsey. One course. C-L: Cultural Anthropology 560S, International Comparative Studies

690. Special Topics. Topics vary from semester to semester. Instructor: Staff. One course.


THE MAJOR

The major requires ten courses, eight of which must be at the level of 200 or above. Students may choose one of the two following options.

A. The Americas Focus

Major Requirements:
2. Three courses focusing upon the Americas, one course in each of the following areas:
   a. Arts or Literature
   b. History
   c. Social, Religious, Economic, or Political Institutions/Processes.
3. African and African American Studies 499S (Senior Seminar).
4. Four additional African and African American Studies courses.

B. Africa Focus

Major Requirements:
2. Three courses focusing upon Africa, one course in each of the following areas:
   a. Arts or Literature
   b. History
   c. Social, Religious, Economic, or Political Institutions/Processes.
3. African and African American Studies 499S (Senior Seminar).

THE MINOR

The minor requires five courses, two of which must be African and African American Studies 102 and 103, and three of which must be at the level of 200 or above. Courses must be selected in each of the following areas:
1. Arts or Literature
2. History
3. Social, Religious, Economic, or Political Institutions/Processes.

N.B. Both program foci (Africa and the Americas) must be represented in the three-course selection.
Departmental Graduation with Distinction

The program offers work leading to Graduation with Distinction. See the section on honors in this bulletin and contact the director of undergraduate studies.

Foreign Languages

The program recommends that majors complete at least two years of college-level study, or equivalent, of a foreign language. Students interested in additional study of African or Diaspora cultures are strongly encouraged to study an African or Caribbean language.

Animal Behavior

For courses in animal behavior, see Biology on page 179.

Anthropology

See the departments of Evolutionary Anthropology (on page 319) and Cultural Anthropology (on page 229).

Arabic

For courses in Arabic, see Asian and Middle Eastern Studies on page 161.

Art, Art History, and Visual and Media Studies (ARTSVIS/ARTHIST/VMS)

Professor Van Miegroet, Chair; Associate Professor Dillon, Director of Undergraduate Studies; Professors Antliff, Bruzelius, Hansen, Leighton, Lenoir, McWilliam, Morgan, Powell, Seaman, Stiles, Van Miegroet, and Wharton; Associate Professors Abe, Dillon, Gabara, and Weisenfeld; Assistant Professors Galletti and Olson; Assistant Research Professors Lasch and Szabo; Professor of the Practice Rankin; Associate Professors of the Practice Noland and Shatzman; Assistant Professor of the Practice Salvador de Prada; Adjunct Professors Rorschach and Schröth; Adjunct Associate Professor Brady

A major or a minor is available in art history, visual arts, art history/visual arts, visual and media studies, and photography through this department.

ART HISTORY (ARTHIST)

Art history is the study of works of art in the context of the broader social, political, and intellectual cultures of which they are a part. Studying art history develops the ability to evaluate and organize information, visual as well as verbal; it also enhances the faculties of creative imagination, precise observation, clear expression, and critical judgment. Students of art history acquire a sophisticated understanding of the theory and practice of artistic production and reception.

A major or second major in art history provides basic training for those interested in teaching, museum and gallery work, art publishing, and advertising; the major also furnishes an appropriate background for graduate training in architecture. Art history's emphasis upon careful observation, the ordering of diverse sorts of information, expository writing, and scholarly research makes it a good general preparation for any profession.

20. Basic Art History. Credit for Advanced Placement on the basis of the College Board examination in art history. Does not count toward the major in art history or design. One course.

89S. First-Year Seminar. ALP, CZ, R Topics vary each semester offered. Instructor: Staff. One course.

101D. Introduction to the History of Art. ALP, CCI, CZ Same as Art History 101, except instruction provided in two lectures and one small discussion meeting each week. Instructor: Staff. One course.

102D. Introduction to the History of Art. ALP, CCI, CZ Same as Art History 102 except instruction provided in two lectures and one small discussion meeting each week. Instructor: Staff. One course.

121. Medieval Cultures. ALP, CCI, CZ One course. C-L: see Medieval and Renaissance Studies 151; also C-L: Classical Studies 121, History 241
152. Renaissance Cultures. ALP, CCI, CZ One course. C-L: see Medieval and Renaissance Studies 152; also C-L: History 116, Italian 381

185FS. The Languages of Art. ALP, CCI, CZ How meaning is communicated by a work of art. Interpretive strategies. Visual languages developed and used by different societies. Relationship between visual and verbal languages, texts and images. Study of Semiotics and Iconology. Open only to students in the Focus Program. Instructor: Kachurin. One course.

190A. Duke-Administered Study Abroad: Special Topics in Art History. ALP, CZ Topics differ by section. Instructor: Staff. One course.

190FS. Topics in Art History. ALP, CZ Subjects, areas, or themes that embrace a range of disciplines, art historical areas, and visual culture. Open only to students in the Focus Program. Instructor: Staff. One course.

190S. Special Topics in Art History. ALP Subjects, areas, or themes that embrace a range of disciplines or art historical areas. Instructor: Staff. One course.

197A. Visual Culture Outside the United States, I. ALP, CZ Course in the visual arts and/or architecture taught in Duke programs abroad. Instructor: Staff. One course.

198A. Visual Culture Outside the United States, II. ALP, CZ See Art History 197A. Instructor: Staff. One course.

203. Visualizing Cultural Dissent in Modernism, 1880-1945. ALP, CCI, CZ Interrelations of modernism and politics in a period of rapid social and technological change, rise of mass social movements, and political reaction on left and right. Development of new media in the form of prints and photography reflecting these changes and a variety of social movements and political positions by artists exploring a range of subjects, media, and exhibition venues from large-scale paintings in the annual state-sponsored salons to political satire in the press. Instructor: Leighten. One course. C-L: Visual and Media Studies 203, Policy Journalism and Media

205. The Aegean Bronze Age. ALP, CCI, CZ One course. C-L: see Classical Studies 352

206. Early Greek Archaeology: From the Fall of Mycenae to the Persian Wars. ALP, CCI, CZ, W One course. C-L: see Classical Studies 344

207. Greek Art and Archaeology II: Classical to Greco-Roman. ALP, CCI, CZ One course. C-L: see Classical Studies 348

208. Art and Archaeology of Ancient Athens. ALP, CCI, CZ Monuments, archaeology, art, and topography of ancient Athens from the Archaic to the Roman period. Examination of the physical remains of the city and countryside to trace the development of one of the most important city-states in the Greek world and to understand its impact on western civilization. Case study in understanding the role of archaeology in reconstructing the life and culture of the Athenians. Instructor: Dillon. One course. C-L: Classical Studies 248

209A. Rome: History of the City. ALP, CCI, CZ One course. C-L: see Classical Studies 340A; also C-L: History 238A

210. The Art of Greece and Rome. ALP, CCI, CZ Explores profound influence of Greek and Roman artistic legacy on Western art. Innovations include portrait, Baroque style, large-scale painting, public baths, theater. Explore art and architecture of Greece and Rome in social and cultural context, including major technical and aesthetic innovations. Role of artistic agency and patronage. Starts with the Classical age and ends with Christian emperor Constantine. Instructor: Dillon. One course. C-L: Classical Studies 250

215. Representing Women in the Classical World. ALP, CCI, CZ, W The lives of women in the Classical world viewed through the visual culture of Classical art. Through images of women in statues, reliefs, coins, and painting, the course explores the role of visual representation in communicating complex social and political messages. Issues such as the construction of gender, the expression of power and status, the preservation of social hierarchies, the protection of normative values, and the manipulation and control of
sexuality are considered. Instructor: Dillon. One course. C-L: Classical Studies 243, Visual and Media Studies 209

225. Gothic Cathedrals. ALP, CCI, CZ, R Great cathedrals of Europe in England, Germany, and Italy, with a special focus on France, from roughly 1140 to 1270, and their construction, financing, and role in the fabric of medieval city life. The urban context of each city, the history of the site and its relics, and the artistic and technological developments that made the construction of these complex and large-scale structures possible. A consideration of Romanesque precedents and the origins of the various structural elements of Gothic architecture. Instructor: Bruzelius. One course. C-L: Medieval and Renaissance Studies 215

226. Medieval Architecture. ALP, CCI, CZ, R A survey of the origins and development of medieval church architecture from Late Antiquity to the High Middle Ages in the Mediterranean and Europe north of the Alps concentrating on the effects of the cult of relics, the inclusion of burials, the segmentation of the lay public, and different types of liturgical requirements on the shapes and spaces of religious buildings; the origins and development of fortifications and castles. Emphasis on monastic architecture and especially the buildings of the mendicant orders. Instructor: Bruzelius. One course. C-L: Medieval and Renaissance Studies 210

227. Eighteenth-Century Art and Architecture. ALP, CCI, CZ The visual arts and esthetic issues in the development of modern culture in Europe and the relationship between artists and the public in the period of the Enlightenment. Considering all media, including painting, sculpture, prints, architecture and gardens, topics may include the rise of academies, the development of art criticism, the role of the spectator in art; the involvement of women in art and its institutions; historical and theoretical discussions of rococo and neoclassical styles; the idea of revolutions in history; Rousseau and the cult of nature; and the impact of new philosophical trends on aesthetic theory. Instructor: Staff. One course.

229. Contemporary Performance. ALP, R One course. C-L: see Dance 208; also C-L: African and African American Studies 229, Theater Studies 208

231. History of Art Markets. R, SS, STS Analytical survey of emergence of art markets, interactions between market behavior(s), visual/media culture(s). Addresses questions regarding the nature of art markets, the specificity of art markets and the application of economic and historical methodologies, how and where players in local markets throughout the world shape visual culture(s), effective causes for art consumption, taste, fashion throughout ages, and methodological implications of art market research at interface of Economics, Art History, Law and Visual Studies. Instructor: Van Miegroet. One course. C-L: Economics 344, Visual and Media Studies 242

238. Science Fiction Film. ALP, CCI, EI, STS One course. C-L: see English 386

255. Art in Renaissance Italy. ALP, CCI, CZ Introduction to the development of painting, sculpture, and architecture in Rome from the fifteenth to the early seventeenth centuries, focusing on the patronage of the Popes and Papal court. Instructor: Galletti. One course. C-L: Medieval and Renaissance Studies 225, Italian 386

255A. Renaissance and Baroque Art History. ALP, CCI, CZ Introduction to the development of painting, sculpture, and architecture in Rome from the fifteenth to the early seventeenth centuries, focusing on the patronage of the Popes and the Papal court. Consent required. (Taught at the Intercollegiate Center for Classical Studies in Rome.) Instructor: Galletti. One course. C-L: Medieval and Renaissance Studies 229A

256. Art in Spain During the Golden Age. ALP Survey of the visual arts in Spain from 1550-1770, with an emphasis on artistic centers of Toledo, Madrid, and Seville. Concentration on the effects of royal patronage, the role of the Church, and the artist's status in society. Field trips to Ackland Art Museum, UNC, Chapel Hill, and the NC Museum of Art, Raleigh. Instructor: Schroth. One course. C-L: Spanish 360

258. Renaissance Architecture in Italy: Brunelleschi to Michelangelo. ALP, CZ Architecture, design, theory, engineering, construction, and the related arts, 1400-1600. The architectural production of the Italian Renaissance in its historical, cultural, social, and economical context. Contributions of individual masters, including Brunelleschi, Alberti, Bramante, Leonardo, Raphael, Michelangelo, Palladio. Emphasis on
architecture in Florence and Rome. Instructor: Galletti. One course. C-L: Italian 258, Medieval and Renaissance Studies 227


259. Michelangelo in Context. ALP, CCI, CZ Historical and cultural contextualization of the work of Michelangelo Buonarroti (1475-1564), painting, sculpture and architecture. History, historiography, contemporary debate and scholarship concerning his work of artistic training and workshop practice, techniques, centers of production, art markets and consumption, antiquarianism and art collections, patronage, identity, gender, artistic rivalry, spread of knowledge and models, relationship with the spectator, social life, sacred and secular spaces and objects. Field trip to the Metropolitan Museum of Art collection of Renaissance architectural drawings and prints in New York. Instructor: Galletti. One course. C-L: Medieval and Renaissance Studies 227FS


261. The Contemporary Art Market. ALP, R, SS One course. C-L: see Economics 343; also C-L: Markets and Management Studies

262A. History of Netherlandish Art in a European Context. ALP, CCI, CZ See Art History 506A. (Taught in the Netherlands.) Not open to students who have taken 506A-507A. Course credit contingent upon successful completion of Art History 263A. Instructor: Van Miegroet. One course. C-L: Medieval and Renaissance Studies 227FS

263A. History of Netherlandish Art in a European Context. ALP, CCI, CZ See Art History 507A. (Taught in the Netherlands.) Not open to students who have taken 506A-507A. Second half of Art History 262A-263A; required for credit for 262A. Instructor: Van Miegroet. One course. C-L: Medieval and Renaissance Studies 227FS


281. Global Art Since 1945. ALP, CCI, CZ, E Major avant-garde movements of the post-World War II era covered globally, from abstract expressionist painting to multimedia interactive art, all of which concentrate on the social, political, and cultural impact of experimental art after the atomic age and in the aftermath of the Holocaust, continuing into the post-biological age of genetic engineering. Focus on the vast changes that have
occurred in art and its media since 1945 and the moral and ethical roles that art plays in shaping culture and in reflecting its social exigencies. Instructor: Stiles. One course. C-L: Women's Studies 277, International Comparative Studies 219, Marxism and Society, Ethics Courses Offered Through Other Departments

282S. Painting Russia Red: Early Soviet Culture, 1917-1934. ALP, CCI, CZ One course. C-L: see Russian 375S


285D. Modern Architecture. ALP, CCI, CZ The history of European and American architecture from the eighteenth-century Neo-Classicism through Gothic Revival, Art Nouveau, and Arts and Crafts to the early twentieth century Bauhaus. Labrouste, Richardson, early Wright, and LeCorbusier among the architects considered. Instructor: Wharton. One course. C-L: International Comparative Studies 231D, Marxism and Society

286D. Contemporary Architecture. ALP, CCI, CZ Background examination of the Bauhaus through Corporate International Style as a background to the Postmodern core of the course. Later Wright and LeCorbusier, Gehry, Graves, Eisenman, Disney Imaginers among the architects and designers considered. Political, ideological, aesthetic, and technical aspects of building investigated through primary texts. Instructor: Wharton. One course.

287. Russian Art and Politics: 1800-Present. ALP, CCI, CZ One course. C-L: see Russian 217

287FS. Russian Art and Politics. ALP, CCI, CZ One course. C-L: see Russian 217FS

288. Dada and Surrealism. ALP, CCI, CZ The origins, aims, literature, and politics of the international movements of dada and surrealism, which flourished between the world wars, examined in the light of dada and surrealist theory, literature, and art. Instructor: Leighten. One course. C-L: Women's Studies


290. Special Topics in Art History. ALP Topics vary by semester. Instructor: Staff. One course.

290-1. Topics in Medieval Art and Architecture. ALP, CCI, CZ Specific problems dealing with contextual and cultural issues in medieval art and architecture from c. 300 to 1400. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 290-1

290A-1. Topics in Italian Art and Architecture. ALP, CCI, CZ Topics vary from year to year. Consent of instructor required. (Taught in Italy.) Instructor: Staff. One course.

291. Independent Study. Directed reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or report. Open to qualified students in the junior year, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

292. Independent Study. See Art History 291. Open to qualified students in the junior year, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

293. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to qualified students in the junior year, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

294. Research Independent Study. R See Art History 293. Open to qualified students in the junior year, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.
295. Chinese Art 1900 to Present. ALP, CCI, CZ, R Study of selected works of Chinese art and visual culture (painting, sculpture, architecture, video, performance, and installation art; fashion design and cinema) from 1900 to the present. Emphasis on the visual analysis of objects as well as their social and historical context. Instructor: Abe. One course. C-L: International Comparative Studies

296A. Berlin: Architecture, Art and the City, 1871-Present. ALP, CCI, CZ One course. C-L: see German 322A; also C-L: International Comparative Studies

297A. Art and Architecture of Berlin, Fifteenth to the Twentieth Century. ALP, CCI, CZ Introduction to the visual arts of Germany from the fifteenth to the twentieth century through lectures conducted in Berlin's museums and cultural institutions. German Old Masters, German Romantic and Realist artists, Modernist art movements, such as Expressionism and New Objectivity, considered in relation to upheavals in modern German history. Taught in English in the Duke-in-Berlin summer program. Instructor: Staff. One course. C-L: German 365A


301. English Art 1740-1850: Hogarth to the Pre-Raphaelites. ALP, CCI, CZ, R, W Painting and sculpture in Britain from Hogarth to the Pre-Raphaelites; developments in narrative painting, portraiture and history painting; funerary sculpture and the emergence of the public movement; the role of institutions and art collectors; writing on art from Hogarth and Reynolds to Hazlitt and Ruskin. Instructor: McWilliam. One course.

302. French Art 1780-1850. ALP, CCI, CZ A thematic history of painting in France from Classicism to Realism; the impact of revolution and social change on visual art; the academy and artistic training and exhibition; romanticism and changing conceptions of creativity and artistic individuality; the crisis in history painting and the new appeal of landscape; critics and collectors. Instructor: McWilliam. One course.

303. History of Photography, 1839 to the Present. ALP, CCI, CZ Major artists and movements in the history of the photographic medium, including visual and critical traditions inherited and manipulated by photographers, the ways photography participated in nineteenth- and twentieth-century art movements as well as documentation and social change, and critical photographic discourse throughout this period. Topics include the invention of photography, 'Art' photography and documentary photography in the nineteenth century, pictorialism, 'straight' and purist photography, photography and modernist art movements (dada, surrealism, Bauhaus, Russian avant-garde), twentieth-century documentary, and photography of the 1950s, 1960s, 1970s, 1980s, and 1990s. Instructor: Leighten. One course. C-L: Visual and Media Studies 303, Documentary Studies, Arts of the Moving Image

304. Cubism and Culture. ALP, CCI, CZ, W Development of Cubism from its origins in Paris in 1907 to the movement's decline in the 1920's. Cubist aesthetics is contextualized in light of the cultural politics of the period. Topics may include tradition, primitivism, and anti-colonialism, anarchism and politics, approaches to collage, contemporary philosophy and science, and the role of gender in Cubist aesthetics. Instructor: Antliff or Leighten. One course.

310. Museum Internship. R Museum work in the context of art historical, ethical, philosophical, and economic issues related to the presentation of art in museums. Under direction of museum director, curators, or other staff, independent research project and practicum and production of a document or publication as a culmination of the course. Instructor: Staff. One course.

337. Netherlandish Art and Visual Culture in the Seventeenth and Eighteenth Centuries. ALP, CCI, CZ, R A contextual study of northern Netherlands art, seen through the major Dutch cities and towns where painters, such as Frans Hals and Johannes Vermeer, were at work. Rembrandt and his school; Dutch art in its historical, societal, moral, and psychological context. Instructor: Van Miegroet. One course. C-L: Medieval and Renaissance Studies 249, International Comparative Studies


380. Japanese Art, 1600 to the Present. ALP, CCI, CZ, EI Japanese visual culture from the end of the sixteenth century to the contemporary period encompassing the country's unification under Tokugawa rule and later emergence on the world stage through painting, sculpture, architecture, ceramics, decorative arts, photography, and print media. The relationship between artistic production and Japanese sociopolitical development seen through the critical issues of religion, region, gender, class, and nationalism. Ethical questions surrounding the establishment of the Japanese colonial empire in Asia, the Pacific War, the atomic bombings of Hiroshima and Nagasaki, the internment of Japanese-Americans in the United States, and the American Occupation of Japan. Instructor: Weisenfeld. One course. C-L: International Comparative Studies


382. Japanese Architecture. ALP, CCI, CZ A survey of major architectural traditions of Japan. Sites ranging from prehistoric tombs and dwellings to contemporary design work of architects such as Isozaki Arata and Ando Tadao. Focus on the development of various architectural typologies: Buddhist temples, Shinto shrines, tea ceremony structures, garden design, imperial and shogunal palaces, fortified castles, modern institutional structures, and private residences. Japanese architectural practices compared with other Asian and Euro-American building traditions. Aesthetic, structural, historical, social, and religious issues considered. Instructor: Weisenfeld. One course. C-L: International Comparative Studies 309

383. The Black Atlantic. ALP, CCI, CZ The African diapora--a direct result of the transatlantic slave trade and Western colonialism--has generated a wide array of artistic achievements, from the "shotgun" houses of New Orleans to the urban graffiti of NYC. The course surveys several major cultural groups in West and Central Africa and their aesthetic impact on the arts, religions, and philosophies of peoples of African descent in South America, the Caribbean, and the United States. Instructor: Powell. One course. C-L: African and African American Studies 329, International Comparative Studies 226S

384. Art of the United States. ALP, CZ, EI Course introduces the major art forms and aesthetic theories developed in the US from colonial period to present. Emphasis on architecture, painting, sculpture, graphic, and decorative arts. Structured chronologically, this course defines the characteristics of the different historical periods and the ways American artists both adopted and diverged from other models to create their own, distinctive national identity. Instructor: Powell. One course.

390. Special Topics in Art History. ALP Topics vary by semester. Instructor: Staff. One course.

390-1. Topics in Renaissance Art. ALP, CCI, CZ Specific problems dealing with the iconography, style, or an individual master from c. 1300 to 1600. Subject varies from year to year. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 390-1

390A. Duke-Administered Study Abroad: Advanced Special Topics in Art History. ALP, CCI, CZ Topics differ by section. Instructor: Staff. One course.

390S. Special Topics in Art History. Subjects, areas, or themes that embrace a range of disciplines or art historical areas. Consent of instructor required. Instructor: Staff. One course.

490-1. Topics in Nineteenth Century European Art. ALP, CCI, CZ Focus on a major aspect of nineteenth century European art. Subject varies from year to year. Instructor: Staff. One course.

490-2. Topics in Twentieth Century Art (TOP). ALP, CCI, CZ Focus on a major aspect of Twentieth century European art. Subject varies from year to year. Instructor: Staff. One course.

490-3. Topics in Contemporary Art. ALP, CCI, CZ Focus on a major aspect of contemporary European art. Subject varies from year to year. Instructor: Staff. One course.

490-4. Topics in History of Photography. ALP, CZ Focus on periods, cultures and major ethical, social and political issues in the history of the photographic medium. Subject varies from year to year. Instructor: Leighten. One course.

490S. Special Topics. Focus on particular aspects of Art and Art History. Topics vary. Instructor consent required. Topics course. Instructor: Staff. One course.

491. Independent Study. Directed reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or report. Open only to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

492. Independent Study. See Art History 491. Open only to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

493. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

494. Research Independent Study. R See Art History 493. Open only to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

501S. Greek Art and Society: Archaic To Classical. ALP, CCI, CZ, R Main categories of buildings, monuments, and images most characteristic of ancient city life in fifth and fourth centuries BCE. Range of material studied: city plans, temples, statues, reliefs, painted pottery. Emphasis on archaeological and historical contexts; questions and themes concern relation of new forms of public building and representation to changing historical circumstances. Fifth century made decisive break with archaic visual modes; area of special investigation is swift emergence and consolidation of revolutionary way of seeing and representing known as 'classical art'. Instructor: Dillon. One course. C-L: Classical Studies 541S

502S. Greek Art and Society: Hellenistic. ALP, CCI, CZ Greek world expanded by Alexander's conquests into western Anatolia and north-western India. Material and visual culture of important sites and characteristic buildings, monuments, images. Particular attention paid to: recent discoveries at Vergina and Pella; royal capital of Attalid Pergamon; city-states of Athens and Priene; Egyptian and Greek interaction in Ptolemaic Alexandria and Egypt. Other important subjects include: the Hellenistic royal image on coins and in statues; colonial settlement, such as that at Ai Khanoum in north-east Afghanistan; changes in honorific and funerary representation. Course also looks at late Hellenistic Delos and mass export of Hellenistic material. Instructor consent required. Instructor: Dillon. One course. C-L: Classical Studies 542S

506A. History of Netherlandish Art and Visual Culture in a European Context. ALP, CCI, CZ, R A contextual study of visual culture in the Greater Netherlands and its underlying historical and socioeconomic assumptions from the late medieval to early modern period, through immediate contact with urban cultures, such as Amsterdam, Leiden, Utrecht, Brussels, Ghent, Bruges, and Antwerp. Includes daily visits to major museums, buildings, and sites; hands-on research in various collections; discussion sessions with leading scholars in the field; and a critical introduction to various research strategies. (Taught in the Netherlands.) Not open to students who have taken Art History 262A-263A. Course credit contingent upon completion of Art


536S. Technology and New Media: Academic Practice. SS, STS One course. C-L: Visual and Media Studies 562S


538S. Museum Theory and Practice. ALP, R Museum theory and the operation of museums, especially art museums, and how the gap between theory and practice is negotiated in the real world setting. Issues involving collecting practices, exhibition practices, and didactic techniques, as well as legal and ethical issues. Taught in the Nasher Museum. Instructor: Rorschach. One course. C-L: Markets and Management Studies

540S. Topics in Nineteenth-Century Art. ALP, CCI, CZ, R Focus on a major artist, movement, or trend in nineteenth-century art. Subject varies from year to year. Consent of instructor required. Instructor: Antliff, Leighten, or McWilliam. One course.

541S. The Symbolist Movement in the Arts & European Thought. ALP, CZ Investigates the relationship linking Symbolist aesthetics and practice with currents in European philosophy in the late nineteenth and early twentieth centuries. The reaction against Positivism; aesthetic idealism and the Platonic tradition; the influence of Schopenhauer and Nietzsche on artists and writers; Symbolism and mysticism (Theosophy, Rosicrucianism, the occult); Symbolism and the Catholic revival; Art nouveau and theories of psychology; the anarchist impulse. Emphasis on visual arts in France, England and Germany; focus on the relationship between word and image in Symbolist poetics. McWilliam. One course. C-L: Literature 541S


543S. Methodology of Art History. ALP, CZ, R, W Various theoretical perspectives that have shaped different disciplinary perspectives and practices in art history. Introduction to particular types of methodologies (i.e. Marxism, feminism, race and gender, psychoanalysis, post-colonial theory, and deconstruction) as fields of inquiry through which the study of the visual arts and culture have been practiced. Historiography of the last two decades in art history; selected contemporary debates. Instructor: Staff. One course.


546S. The American Artist. ALP, CZ, R, W This course utilizes art historical methodologies as tools for critical inquiry and scholarly research on one American artist (selected as per this seminar’s scheduling every four years). Apart from a firm biographical and art historical grasp of the specific American artist under investigation, the goal of this course is to develop visual literacy of American art through seeing and writing. An emphasis will be placed on improving various forms of written art discourse (i.e., descriptive, expository, interpretative, etc. Instructor: staff.
554S. Harlem Renaissance. ALP, CCI, CZ, R The art and culture that was produced by and about African Americans (largely in the western metropoles) during the period roughly between the two world wars. Chronological overview, a focus on individual figures, and study of the criticism and creative writings of this period. Other topics include black migrations to urban centers, performance-as-a-visual-paradigm, racial and cultural primitivism, and an alternative, African American stream of early twentieth century visual modernism. Instructor: Powell. One course. C-L: African and African American Studies 520S

589S. Critical Animal Studies in Art and Visual Culture. ALP, CCI, CZ, EI, R The visual culture constructed around animals, including images of animals from prehistoric to contemporary representations, the role of visualization in animal rights and survival, animals as human totems and stuffed toys, portrayals of animal consciousness and debates about speciesism, in the analysis of the cultural objectification and societal subjectification of animals. Instructor: Stiles. One course.

590S. Special Topics. ALP Subjects, areas, or themes that embrace a range of disciplines or art historical areas. Instructor: Staff. One course.

590S-2. Topics in Renaissance Studies. ALP, CCI, CZ One course. C-L: see Italian 584S; also C-L: Medieval and Renaissance Studies 640S

590S-3. Topics in Romanesque and Gothic Art and Architecture. ALP, CCI, CZ, R Analysis of an individual topic. Subject varies from year to year. Consent of instructor required. Instructor: Bruzelius. One course. C-L: Medieval and Renaissance Studies 590S-1

590S-4. Topics in Italian Renaissance Art. ALP, CCI, CZ, R Topics in art and/or architecture from c. 1300 to c. 1600. Subject varies from year to year. Consent of instructor required. Instructor: Galletti. One course. C-L: Medieval and Renaissance Studies 590S-2


590S-6. Topics in Chinese Art. ALP, CCI, CZ, R Problems and issues in a specific period or genre of Chinese art. Specific focus varies from year to year. Instructor: Abe. One course. C-L: International Comparative Studies


590S-8. Topics in Modern Art. ALP, CZ, R Selected themes in modern art before 1945, with emphasis on major movements or masters. Subject varies from year to year. Consent of instructor required. Instructor: Antliff, Leighten, or Stiles. One course. C-L: International Comparative Studies

590S-9. Topics in Art since 1945. ALP, CZ, R Historical and critical principles applied to present-day artists and/or movements in all media since World War II. Consent of instructor required. Instructor: Stiles. One course. C-L: International Comparative Studies

590S-10. Special Topics in Roman Archaeology. ALP, CZ One course. C-L: see Classical Studies 590S-2

590S-11. Special Topics in Greek Archaeology. ALP, CZ One course. C-L: see Classical Studies 590S-1

VISUAL ARTS (ARTSVIS)

Studio art courses offer directed experiences in the practice of the visual arts, enhancing the understanding of art both within the history of culture and as an individual human achievement. Department offerings emphasize the analysis and articulation of visual concepts and processes as they relate to a broader education in the humanities and sciences.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

101. Introduction to Visual Practice. ALP Basic principles and methods of visual practice: 2DD and 3DD composition, drawing, color theory, photographic and architectural principles, as well as digital and time-based media like film, video, and performance. Visuality in everyday life and its impact on other fields of knowledge. Includes methods such as mapping, virtual environments, graph theory, and vernacular visual practices. Intended primarily for first and second year students. Prerequisite for all intermediate and advanced Visual Arts and Visual Practice classes. Instructor: Lasch. One course.

102. Introduction to the Arts of the Moving Image. ALP One course. C-L: see Arts of the Moving Image 101; also C-L: Visual and Media Studies 102, Information Science and Information Studies 111, Literature 111

115. Introduction to Photography. ALP One course. C-L: see Documentary Studies 115; also C-L: Visual and Media Studies 115


180FS. Visual Representation and Visual Culture. ALP, SS, STS One course. C-L: see Information Science and Information Studies 180FS

190FS. Topics in Visual Arts. ALP Subjects, areas, or themes that embrace art and visual culture. Open only to students in the Focus program. Instructor: Staff. One course.

195FS. Virtual Form and Space. ALP Studio course that explores various applications of virtual environments and specific 3D modeling techniques. Introduction to animation principles. Screenings, discussions, and lab. Open only to students in the Focus Program. Instructor: Salvatella de Prada. One course. C-L: Visual and Media Studies 195FS, Information Science and Information Studies 195FS, Arts of the Moving Image 195FS

196FS. The Photobook: History & Practice. ALP, CZ Cultural, intellectual and artistic history and uses of the book in photographic practice. Traces technical, conceptual, formal innovations that mark international history of photography books through lectures/hands-on examination of key books, including lesser known innovations and uses of photobook in Eastern Europe, the Soviet Union and Japan. Marries historical awareness with studio practice. Simultaneous immersion in production of images as well as collecting of archives from various cultures. Crafting of photobooks in several genres as students edit, print, scan, assemble materials. Seminar includes readings, discussions, short writings, field trips. Focus Program only. Instructor consent required. Instructor: Noland. One course. C-L: Visual and Media Studies 196FS

199. Drawing. ALP Drawing as integrative tool where ideas and processes explored and expanded through a variety of media. Still life, figure, landscape, architecture. Representation, abstraction, and working from imagination. Through problem solving within a range of projects, development of a visual language, and drawing skills to be applied to conceptual, visual, and technical disciplines. Consent of instructor required. Instructor: Staff. One course.

201. Book Art: Form and Function. ALP Studio course examining all aspects of bookmaking, including theories of bookmaking, designing and planning, typography, computer design, illustration, and binding. Prerequisites: Visual Arts 101 and 199 and consent of instructor. Instructor: Shatzman. One course. C-L: Visual and Media Studies 201

202. Figure Drawing. ALP The human figure through different artistic media and from different visual perspectives. Emphasis on drawing and design skills and an anatomical knowledge of the human form. A significant body of drawings is developed in this class. Prerequisites: Visual Arts 101, 199 and consent of instructor based on portfolio. Instructor: Staff. One course.

203. Introduction to Architectural Design. ALP Introduction to architectural design: space making with emphasis on process, abstraction, and modes of representation. Drawing conventions, orthographic projection, model building, rendering, digital technologies as forms of visual inquiry. Tectonics, space, scale, and material as ensemble parts of project presentations to represent ideas as well as artifacts. Final projects on building
program and architectural issues: threshold, view, entry. Instructor consent required. Instructor: Jones. One course.

**205. Intermediate Drawing. ALP, R** Allows students to explore their artistic interests and biases through a series of self-directed projects. Both the directness and the flexibility of the medium of drawing are investigated. Prerequisites: Visual Arts 199 and consent of instructor. Instructor: Staff. One course.

**206. Digital Imaging. ALP** Photoshop and Illustrator used to introduce single and serial images for print and web output. Consent of instructor required. Instructor: Staff. One course. C-L: Visual and Media Studies 206, Documentary Studies, Information Science and Information Studies

**207. Typography. ALP** Writing systems, printing technologies, and typographic evolution; letterform, typographic composition, and page layout. Introduction to Illustrator and Pagemaker. Consent of instructor required. Instructor: Staff. One course.

**208LS. Virtual Form and Space.** Studio course that explores various applications of virtual environments and specific 3D modeling techniques. Introduction to animation principles. Screenings, discussions, and lab. Prerequisites: Visual Arts 199 and consent of instructor required. Instructor: Staff. One course. C-L: Visual and Media Studies 395LS, Information Science and Information Studies 208LS, Arts of the Moving Image 321LS

**209. 3D Modeling and Animation. ALP** Basic concepts of 3D modeling and animation; fundamentals of computer geometry; knowledge of basic tools of 3D software (Maya); introduction to modeling, animation, texturing, lighting, and rendering; combination of these techniques in a final project. Prerequisite: Visual and Media Studies 206 or 396 and consent of instructor. Instructor: Salvatella de Prada. One course. C-L: Visual and Media Studies 351

**210. Sculpture. ALP** Sculptural principles, processes, and issues introduced through lectures, readings, studio assignments, individual projects, and field trips. Consent of instructor required. Instructor: Noland. One course.

**211. Site, Situation, and Object: Sculpture and Architecture. ALP** Studio practice in sculpture at the intermediate level. Group and individual discussion and critique. Prerequisite: Visual Arts 210 and consent of instructor. Instructor: Noland. One course.

**212S. A Digital Approach to Documentary Photography: Capturing Transience. ALP** One course. C-L: see Documentary Studies 209S; also C-L: Visual and Media Studies 212S, Education 209S, Information Science and Information Studies

**213S. Large Format Photography. ALP** One course. C-L: see Documentary Studies 212S; also C-L: Visual and Media Studies 213S

**216. Documentary Photography and the Southern Culture Landscape. ALP, CCI** One course. C-L: see Documentary Studies 215; also C-L: Visual and Media Studies 215

**217S. American Communities: A Photographic Approach. ALP, CCI, SS** One course. C-L: see Documentary Studies 233S; also C-L: Public Policy Studies 397S, Visual and Media Studies 225S, Arts of the Moving Image, Policy Journalism and Media

**219S. Photography. ALP, CZ** An emphasis on how to see with the camera and ways of thinking about photographs. Class assignments accompanied by historical and theoretical readings, lectures, class discussions, and field trips. Final projects are a self-portrait series and an individual documentary essay. Prerequisites: camera and consent of instructor. Instructor: Noland. One course. C-L: Documentary Studies, Arts of the Moving Image

**220. Painting. ALP** Studio practice in painting with individual and group criticism and discussion of important historic or contemporary ideas. Prerequisites: Visual Arts 101, 199 and consent of instructor. Instructor: Staff. One course.
221S. Alternative Photographic Processes. ALP One course. C-L: see Documentary Studies 218S; also C-L: Visual and Media Studies 216S


224. Printmaking: Silkscreen. ALP, R The silkscreen medium and its stencil-making processes including paper stencils, blockouts crayon, and photographic methods. Students develop a significant body of prints using these techniques. Prerequisites: Visual Arts 101 and consent of instructor. Instructor: Shatzman. One course.

225. Printmaking: Lithography. ALP, R Introduction to stone lithography and its drawing and printing methods. Includes both black and white and color printing. The methods and history of lithographic printing. Projects emphasize the development of visual images through this medium. Prerequisites: Visual Arts 101, 199 and consent of instructor. Instructor: Shatzman. One course.

226. Printmaking: Relief and Monotype. ALP, R Relief methods of woodcut and linoleum block printing and monotype techniques. Concentration on both the technical and historical aspects of the media and its expressive potentials. Students develop a significant body of prints using these techniques. Prerequisites: Visual Arts 101 and consent of instructor. Instructor: Shatzman. One course.

227. Printmaking: Intaglio. ALP, R Directed problems in the intaglio medium including etching, aquatint, drypoint, black and white, and color printing methods. Assigned projects emphasize conceptual issues supported by the medium. Students develop a significant body of prints through use of this medium. Prerequisites: Visual Arts 101, 199 and consent of instructor. Instructor: Shatzman. One course.

228S. Adapting Literature -- Producing Film. ALP One course. C-L: see Arts of the Moving Image 304S; also C-L: Documentary Studies 276S, Information Science and Information Studies

229S. Experimental Filmmaking. ALP One course. C-L: see Arts of the Moving Image 340S

230S. Collaborative Art: Practice and Theory of Working Within a Community. ALP One course. C-L: see Documentary Studies 329S; also C-L: Visual and Media Studies 219S

232S. Small Town USA: Local Collaborations. ALP, CCI, R One course. C-L: see Documentary Studies 230S; also C-L: Public Policy Studies 389S, Visual and Media Studies 224S, Policy Journalism and Media Studies

233S. Costume Design. ALP, R One course. C-L: see Theater Studies 261S

234S. Scene Design. ALP, R One course. C-L: see Theater Studies 262S

235S. Lighting Design. ALP, R One course. C-L: see Theater Studies 263S; also C-L: Dance 276S


239S. Gaming the System: Pervasive Gaming as Art. ALP, STS Explores the genre of pervasive or alternate reality gaming, in which the computer gameplay extends beyond typical screen spaces to any area of the player's life, often employing dispersed unconventional "real world" media, such as websites, emails, instant messaging, text messages, online videos, and even direct human interaction. Examines how blurring common distinctions between game and life opens new critical possibilities for artists. Engages students by designing and staging their own alternate reality game as a transformative social action. Open to undergraduates and graduate students. No prerequisites, though prior programming experience is helpful. Instructor: Staff. One course. C-L: Information Science and Information Studies 273S, Visual and Media Studies 239S

240S. Color Photography: Fieldwork and Digital Color. ALP One course. C-L: see Documentary Studies 236S; also C-L: Visual and Media Studies 227S

241S. The Photographic Essay: Narratives Through Pictures. ALP One course. C-L: see Documentary Studies 239S; also C-L: Public Policy Studies 399S

242L. Interactive Graphics: Critical Code. ALP, QS Introduction to interactive graphics programming for artists. Explores object-oriented programming via the Processing programming environment as well as historical and theoretical appreciation of interactivity and computer graphics as artistic mediums. Combines discussions of key concepts from the readings with hands-on Processing projects and critiques. No previous programming experience or prerequisites required. Enrollment limited to 15 students. Instructor: Alt. One course. C-L: Visual and Media Studies 397L, Information Science and Information Studies 294L, Arts of the Moving Image 323, Policy Journalism and Media Studies


244. Photography. ALP Practice in photography. Consent of instructor required. Instructor: Staff. Half course.


248S. Cinematography. ALP One course. C-L: see Arts of the Moving Image 355S; also C-L: Visual and Media Studies 260S, Documentary Studies 281S

249S. The Photobook: History and Practice. ALP, CCI, CZ Cultural, intellectual and artistic history and uses of the book in photographic practice. Traces technical, conceptual, formal innovations that mark international history of photography books through lectures/hands-on examination of key books, including lesser known innovations and uses of photobook in Eastern Europe, the Soviet Union and Japan. Marries historical awareness with studio practice. Simultaneous immersion in production of images as well as collecting of archives from various cultures. Crafting of photobooks in several genres as students edit, print, scan, assemble materials. Seminar includes readings, discussions, short writings, field trips. Consent of instructor required. Instructor: Noland. One course. C-L: Visual and Media Studies 350S

250S. Poverty and the Visual. ALP, CCI, CZ Relationship between art, visual culture, and poverty from the 1950s to the present across cultures. Readings, research, visual analyses, and production assignments based on a broader understanding of poverty as a philosophical, economic, social, and cultural concept. Instructor: Lasch. One course.
254S. Photography in Context. ALP, R One course. C-L: see Documentary Studies 245S; also C-L: Visual and Media Studies 252S

255. Site, Situation, and Object: Sculpture and Architecture. ALP, R Studio course in which students are expected to produce a small series of closely related sculptural projects with an eye towards architectural concerns. Investigations into the mStudio course in which students are expected to produce a small series of closely related sculptural projects with an eye towards architectural concerns. Investigations into the making of objects and structures in human scale, set within a general context of engineering and the capturing or inhabiting of space. Programmatic considerations of site, shape, light, proportion, strength, tactility, spatial sequence and the surround. Instructor consent required. Prerequisite: ARTSVIS 210 or equivalent. Instructor consent required. Instructor: Staff. One course.

258S. Electronic Music and Video Workshop. ALP, STS One course. C-L: see Music 275S; also C-L: Arts of the Moving Image 358S

269. Personal Geographics: Mapping Self-Identity. ALP, R Using mapping as structure of applying informational graphics, students explore aspects of visually charting self-identity. Through graphic design principles students investigate how to visually use mapping, signage and data to portray culture, history, ethnicity, memory relating to their individual backgrounds. Using traditionally based, digital media and typography students create digital images and artist book based on mapping addressing specific assignments using Adobe Photoshop, Illustrator and Indesign. ARTSVIS 54 prerequisite and some knowledge of Adobe Photoshop and Illustrator preferred. Instructor: Merrill Shatzman. One course. C-L: Visual and Media Studies 270

290. Topics in Visual Arts. ALP Subject varies from year to year. Consent of instructor required. Instructor: Staff. One course.

290S. Special Topics in Visual Arts. ALP Subject varies from year to year. Instructor: Staff. One course.

325S. Visiting Filmmaker Master Courses: Special Topics. ALP One course. C-L: see Arts of the Moving Image 385S; also C-L: Documentary Studies 285S

326S. Film Animation Production. ALP One course. C-L: see Arts of the Moving Image 320S; also C-L: Visual and Media Studies 271S, Information Science and Information Studies

328. Animated Film: A History and Aesthetic. ALP, STS One course. C-L: see Arts of the Moving Image 215; also C-L: Information Science and Information Studies 211


390S. Special Topics in Visual Arts. ALP Special Topics in Visual Arts. Subject varies from year to year. One course. Instructor: Staff. One course.


450S. Advanced Narrative Production. ALP One course. C-L: see Arts of the Moving Image 450S

460S. Multimedia Documentary: Editing, Production, and Publication. ALP One course. C-L: see Documentary Studies 460S; also C-L: Visual and Media Studies 460S

470S. Advanced Animation. ALP One course. C-L: see Arts of the Moving Image 460S

490S. Special Topics in the Visual Arts. ALP Subject varies from year to year. Instructor: Staff. One course.

491. Independent Study. Individual directed study in a field of visual practice on a previously approved topic, under the supervision of a regular-rank faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor Staff. One course.
492. Independent Study. Individual directed study in a field of visual practice on a previously approved topic, under the supervision of a regular-rank faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

498S. Senior Capstone in Visual Practice. ALP Capstone seminar focusing on advanced visual practice and theory, including the completion of a body of work and participation in a culminating exhibition. Consent of instructor required. Instructor: Staff. One course. 510S. Body as the Computer. ALP, NS, R, STS Weekly discussions/lectures related to different disciplinary understandings of the body, exploring new computational and aesthetic paradigms for brain/mind/body/environment relations, and working towards articulating bridging languages enabling researchers to talk across disciplines. Students required to participate in ongoing discussion, develop particular aspects of research and write a major research paper. Instructor: Seaman. One course. C-L: Visual and Media Studies 510S, Information Science and Information Studies 666S, Arts of the Moving Image 622S

554S. Experimental Communities. ALP, CCI, CZ, EI Interdisciplinary seminar examining visual culture and experimental social structures. Readings across academic spectrum focusing on alternative corporate models and workers' unions, early soviet social networks, neighborhood associations, anarchist communes, art collectives, minority alliances, reality TV, fan clubs and fundamentalist organizations, encouraging students to fuse theories of social change with practice to produce new social structures. Class productions may include research papers, performances, experimental theater, social actions, new media works, as well as conventional art forms. Work will be judged by its formal sophistication or aesthetic merits, its social or political relevance, and its engagement with methods of ethical inquiry studied throughout the semester. Consent of instructor required. One course. C-L: Visual and Media Studies 554S, Sociology 636S

630. The Ongoing Moment: Presentations of Time in Still and Moving Images. ALP, R Project-driven studio course exploring time through video and still photography. Management, presentation and trace of time discussed in relation to various forms of art, augmented by examination of concepts of duration, aura, silence and thought as they pertain to still and moving images. Individual and group projects investigate various manifestations of stillness and movement in video and photography, with and without sound. Slices of time in both media examined for their properties of continuity, discontinuity and fissure, with emphasis on rendering meaning in and through time and space. Instructor consent required. Prerequisites: two 200-level or above photography or film production classes. Instructor consent required. Instructor: Noland. One course. C-L: Arts of the Moving Image 630

690S. Special Topics in the Visual Arts. ALP Subject varies from year to year. Instructor: Staff. One course.

VISUAL AND MEDIA STUDIES (VMS)
Visual Studies concerns all aspects of the production, circulation, and reception of visual images in culture, science, and society. Media Studies considers similar questions from the perspective of mass media as a social and cultural force through history. Taken together, these approaches engage students in the analysis of the rhetoric and expanded semiotics of images and their relationships to other media forms, both analog and digital, providing access to how meaning is socially, politically, and culturally constructed and received. Visual and Media Studies enables students to interpret the representations that shape the visual and conceptual constructs of a particular society, to consider how systems of media codes differ from culture to culture, and to think through how the symbolic constructions of life organize how one sees, understands, and participates in natural and social environments. Most importantly, establishing a clear connection between the theory and the practice of visuality and other media of expression are the foundations of Visual and Media Studies. In that light, students will both study and create visual and digital media as part of their coursework, and participate in individual or group capstone projects that include a media production dimension.

89S. First-Year Seminar. Topics vary. Open only to first-year students. Instructor: Staff. One course.

102. Introduction to the Arts of the Moving Image. ALP One course. C-L: see Arts of the Moving Image 101; also C-L: Visual Arts 102, Information Science and Information Studies 111, Literature 111
103. Traditions in Documentary Studies. ALP, CCI One course. C-L: see Documentary Studies 101
105. Fantasy, Mass Media, and Popular Culture. CCI, R, SS One course. C-L: see Cultural Anthropology 150; also C-L: International Comparative Studies 105, Documentary Studies, Policy Journalism and Media Studies, Study of Sexualities
115. Introduction to Photography. ALP One course. C-L: see Documentary Studies 115; also C-L: Visual Arts 115
130. Anthropology and Film. SS One course. C-L: see Cultural Anthropology 130; also C-L: International Comparative Studies 104, Documentary Studies, Arts of the Moving Image, Marxism and Society
150. Introduction to Astronomy. NS One course. C-L: see Physics 134
160. Anthropology and the Motion Picture. ALP, CCI, CZ One course. C-L: see Cultural Anthropology 160
170D. Advertising and Society: Global Perspective. CCI, SS One course. C-L: see Cultural Anthropology 170D; also C-L: Sociology 160D, Linguistics 170D
172. Artificial Life, Culture, and Evolution. QS, SS, STS One course. C-L: see Information Science and Information Studies 170; also C-L: Computer Science 107
180. Introduction to Cultural Studies. ALP One course. C-L: see Literature 150; also C-L: English 180, Arts of the Moving Image, Marxism and Society
190A. Duke Administered Study Abroad: Special Topics in Visual Studies. ALP Topics differ by section. Instructor: Staff. One course.
195FS. Virtual Form and Space. ALP Studio course that explores various applications of virtual environments and specific 3D modeling techniques. Introduction to animation principles. Screenings, discussions, and lab. Open only to students in the Focus Program. Instructor: Salvatella de Prada. One course. C-L: Visual Arts 195FS, Information Science and Information Studies 195FS, Arts of the Moving Image 195FS
196FS. The Photobook: History & Practice. ALP, CZ Cultural, intellectual and artistic history and uses of the book in photographic practice. Traces technical, conceptual, formal innovations that mark international history of photography books through lectures/hands-on examination of key books, including lesser known innovations and uses of photobook in Eastern Europe, the Soviet Union and Japan. Marries historical awareness with studio practice. Simultaneous immersion in production of images as well as collecting of archives from various cultures. Crafting of photobooks in several genres as students edit, print, scan, assemble materials. Seminar includes readings, discussions, short writings, field trips. Focus Program only. Instructor consent required. Instructor: Noland. One course. C-L: Visual Arts 196FS
201. Book Art: Form and Function. ALP Studio course examining all aspects of bookmaking, including theories of bookmaking, designing and planning, typography, computer design, illustration, and binding. Prerequisites: Visual Arts 101 and 199 and consent of instructor. Instructor: Shatzman. One course. C-L: Visual Arts 201
203. Visualizing Cultural Dissent in Modernism, 1880-1945. ALP, CCI, CZ Interrelations of modernism and politics in a period of rapid social and technological change, rise of mass social movements, and political reaction on left and right. Development of new media in the form of prints and photography reflecting these changes and a variety of social movements and political positions by artists exploring a range of subjects,
media, and exhibition venues from large-scale paintings in the annual state-sponsored salons to political satire in the press. Instructor: Leighten. One course. C-L: Art History 203, Policy Journalism and Media Studies

204S. Medicine and the Vision of Documentary Photography. ALP One course. C-L: see Documentary Studies 206S; also C-L: Public Policy Studies 377S


207S. Children's Self Expression: Literacy Through Photography. EI, SS One course. C-L: see Documentary Studies 224S; also C-L: Public Policy Studies 395S


209. Representing Women in the Classical World. ALP, CCI, CZ, W The lives of women in the Classical world viewed through the visual culture of Classical art. Through images of women in statues, reliefs, coins, and painting, the course explores the role of visual representation in communicating complex social and political messages. Issues such as the construction of gender, the expression of power and status, the preservation of social hierarchies, the protection of normative values, and the manipulation and control of sexuality are considered. Instructor: Dillon. One course. C-L: Art History 215, Classical Studies 243

210S. Documenting Religion. CCI, CZ One course. C-L: see Documentary Studies 338S; also C-L: Religion 251S, Cultural Anthropology 233S

211S. Children and the Experience of Illness. SS One course. C-L: see Documentary Studies 202S; also C-L: Public Policy Studies 395S

212S. A Digital Approach to Documentary Photography: Capturing Transience. ALP One course. C-L: see Documentary Studies 209S; also C-L: Visual Arts 212S, Education 209S, Information Science and Information Studies

213S. Large Format Photography. ALP One course. C-L: see Documentary Studies 212S; also C-L: Visual Arts 213S

215. Documentary Photography and the Southern Culture Landscape. ALP, CCI One course. C-L: see Documentary Studies 215; also C-L: Visual Arts 216

216S. Alternative Photographic Processes. ALP One course. C-L: see Documentary Studies 218S; also C-L: Visual Arts 221S

217S. Visual Research and the American Dream. ALP, R, SS One course. C-L: see Documentary Studies 221S; also C-L: Sociology 228S

218S. Sociology through Photography. ALP, SS One course. C-L: see Documentary Studies 227S; also C-L: Sociology 352S

219S. Collaborative Art: Practice and Theory of Working Within a Community. ALP One course. C-L: see Documentary Studies 329S; also C-L: Visual Arts 230S

220S. Planning the Documentary Film: From Concept to Treatment. ALP, R One course. C-L: see Documentary Studies 273S; also C-L: Arts of the Moving Image 332S, Information Science and Information Studies

223. Melodrama East and West. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 211; also C-L: Women's Studies 279, International Comparative Studies 307

224S. Small Town USA: Local Collaborations. ALP, CCI, R One course. C-L: see Documentary Studies 230S; also C-L: Visual Arts 232S, Public Policy Studies 389S, Policy Journalism and Media Studies
225S. American Communities: A Photographic Approach. ALP, CCI, SS One course. C-L: see Documentary Studies 233S; also C-L: Visual Arts 217S, Public Policy Studies 397S, Arts of the Moving Image, Policy Journalism and Media Studies

227S. Color Photography: Fieldwork and Digital Color. ALP One course. C-L: see Documentary Studies 236S; also C-L: Visual Arts 240S

228. Film and the African Diaspora. ALP, CCI, SS One course. C-L: see African and African American Studies 330; also C-L: Women's Studies 250, Arts of the Moving Image


230. Black Popular Culture. CCI, CZ One course. C-L: see African and African American Studies 331

231. Indian Cinema. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 251; also C-L: Literature 211, Arts of the Moving Image 253

232. Japanese Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 255; also C-L: Literature 213, Arts of the Moving Image 255

233. Religion in American Life. CZ, EI One course. C-L: see Religion 237

234. World of Korean Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 261; also C-L: Literature 212, Arts of the Moving Image 256

235. Modern Chinese Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 431; also C-L: Literature 214, Arts of the Moving Image 256

237. Global Chinese Cities through Literature and Film. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 233; also C-L: International Comparative Studies 302, Arts of the Moving Image 269

238S. Discourse of Disease and Infection. ALP, CCI, CZ, STS One course. C-L: see Asian & Middle Eastern Studies 409S; also C-L: International Comparative Studies 404S, Arts of the Moving Image 215S

239S. Gaming the System: Pervasive Gaming as Art. ALP, STS Explores the genre of pervasive or alternate reality gaming, in which the computer gameplay extends beyond typical screen spaces to any area of the player's life, often employing dispersed unconventional "real world" media, such as websites, emails, instant messaging, text messages, online videos, and even direct human interaction. Examines how blurring common distinctions between game and life opens new critical possibilities for artists. Engages students by designing and staging their own alternate reality game as a transformative social action. Open to undergraduates and graduate students. No prerequisites, though prior programming experience is helpful. Instructor: Staff. One course. C-L: Visual Arts 239S, Information Science and Information Studies 273S

240. Drama of Greece and Rome. ALP, CCI, CZ One course. C-L: see Classical Studies 304; also C-L: Theater Studies 227

241. Computer Graphics. QS One course. C-L: see Computer Science 344; also C-L: Modeling Biological Systems

242. History of Art Markets. R, SS, STS Analytical survey of emergence of art markets, interactions between market behavior(s), visual/media culture(s). Addresses questions regarding the nature of art markets, the specificity of art markets and the application of economic and historical methodologies, how and where players in local markets throughout the world shape visual culture(s), effective causes for art consumption, taste, fashion throughout ages, and methodological implications of art market research at interface of Economics, Art History, Law and Visual Studies. Instructor: Van Miegroet. One course. C-L: Art History 231, Economics 344

247. Global Culture. CCI, SS One course. C-L: see Cultural Anthropology 210; also C-L: International Comparative Studies, Markets and Management Studies, Marxism and Society

250. Representing the Middle East. CCI, CZ, SS One course. C-L: see Cultural Anthropology 251; also C-L: Asian & Middle Eastern Studies 345, History 213, Turkish 372, International Comparative Studies 362, Islamic Studies, Policy Journalism and Media Studies

251. Representing Haiti. CCI, CZ, R, STS One course. C-L: see Romance Studies 345; also C-L: Information Science and Information Studies 215

252S. Photography in Context. ALP, R One course. C-L: see Documentary Studies 245S; also C-L: Visual Arts 254S

253S. The Surface of the Earth. NS One course. C-L: see Earth and Ocean Sciences 203S

257. Aesthetics, Design, and Culture. One course. C-L: see Engineering 357


260S. Cinematography. ALP One course. C-L: see Arts of the Moving Image 355S; also C-L: Documentary Studies 281S, Visual Arts 248S

261S. Moving Image Practice. ALP, STS One course. C-L: see Arts of the Moving Image 301S; also C-L: Theater Studies 370S, Information Science and Information Studies


264. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. ALP, CCI, STS One course. C-L: see Arts of the Moving Image 205; also C-L: Documentary Studies 270, Political Science 276, Public Policy Studies 374

265. History of Documentary Film. ALP, CCI One course. C-L: see Arts of the Moving Image 202; also C-L: Documentary Studies 107

266. Media History: Old and New. ALP, SS, STS Development of various media forms in historical and social contexts. Impact of old "new" media on established art, commerce, education, politics, entertainment from 19th c. on. Changing ideas about authenticity, authority, agency, reception, identity, and power relating to emerging media forms, production, circulation. Overlaps, disjunctures, convergences, persistences and antiquations via case studies and examples. Technologies include print publishing, photography, audio recording, film, telegraph, maps, exhibitions, architecture and installations alongside contemporary web, multimedia, database, game, virtual reality, and telepresence systems. Final rich media research project required. Instructor: Lenoir, Szabo. One course. C-L: Information Science and Information Studies 268

267. Film Genres. ALP One course. C-L: see Arts of the Moving Image 210; also C-L: Literature 220

268. American Film Comedy. ALP One course. C-L: see Arts of the Moving Image 211; also C-L: English 382, Literature 221

269. Documentary Photography and Film of the Nuclear Age. ALP, CZ, EI The role of photojournalism and documentary photographers in recording and communicating vital issues of the nuclear age including nuclear weapons testing and its effects, the environmental issues surrounding fallout and nuclear power-plant accidents, low-level waste disposal, and other human and environmental issues related to war, the technology

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of nuclear weapon and energy production and their cultural manifestations. Instructor: Stiles. One course. C-L: International Comparative Studies, Documentary Studies, Arts of the Moving Image

**270. Personal Geographics: Mapping Self-Identity. ALP, R** Using mapping as structure of applying informational graphics, students explore aspects of visually charting self-identity. Through graphic design principles students investigate how to visually use mapping, signage and data to portray culture, history, ethnicity, memory relating to their individual backgrounds. Using traditionally based, digital media and typography students create digital images and artist book based on mapping addressing specific assignments using Adobe Photoshop, Illustrator and InDesign. ARTSVIS 54 prerequisite and some knowledge of Adobe Photoshop and Illustrator preferred. Instructor: Merrill Shatzman. One course. C-L: Visual Arts 269

**271S. Film Animation Production. ALP** One course. C-L: see Arts of the Moving Image 320S; also C-L: Visual Arts 326S, Information Science and Information Studies

**272S. Motion Graphics in Film and Video. ALP, STS** One course. C-L: see Arts of the Moving Image 322S; also C-L: Visual Arts 236S

**273S. Documentary Film/Video Theory and Practice. ALP** One course. C-L: see Arts of the Moving Image 330S; also C-L: Cultural Anthropology 355S, Documentary Studies

**274S. Editing the TV Documentary: From Creativity to Collaboration to Negotiation. ALP** One course. C-L: see Arts of the Moving Image 333S; also C-L: Documentary Studies 279S, Policy Journalism and Media Studies

**276S. German Film. ALP, FL** One course. C-L: see German 441S; also C-L: Arts of the Moving Image 252S

**279S. Freud's Vienna: Experiments in Modernity Around 1900. ALP, CCI, CZ, FL** One course. C-L: see German 442S

**280. German Film. ALP, CZ** One course. C-L: see German 264; also C-L: Arts of the Moving Image

**280D. German Film. ALP, CZ** One course. C-L: see German 264D; also C-L: Arts of the Moving Image 252D

**283. Existentialist Cinema. ALP, CCI, CZ, EI, STS** One course. C-L: see German 386; also C-L: Theater Studies 372, Literature 218, Arts of the Moving Image 267, Arts of the Moving Image

**284. Weimar and Nazi Germany. CZ, R** One course. C-L: see History 289; also C-L: International Comparative Studies

**285. Perspectives on Information Science and Information Studies. CZ, STS** One course. C-L: see Information Science and Information Studies 201

**286S. Gender and Digital Culture. ALP, STS, W** One course. C-L: see Information Science and Information Studies 340S; also C-L: Women's Studies 210S

**287S. Constructing Immersive Virtual Worlds. QS** One course. C-L: see Information Science and Information Studies 270S; also C-L: Computer Science 102S

**288. Fundamentals of Web-Based Multimedia Communications. ALP, QS, R** One course. C-L: see Information Science and Information Studies 240; also C-L: Arts of the Moving Image 325, Policy Journalism and Media Studies

**289. History and Concepts of Cinema. ALP** One course. C-L: see Arts of the Moving Image 201; also C-L: Theater Studies 278, English 181, Literature 110, Documentary Studies 264, Policy Journalism and Media Studies

**290. Special Topics in Visual Studies. ALP** Subjects, areas, or themes that embrace a range of disciplines that relate to visual studies. Instructor: Staff. One course.

**290S. Special Topics in Visual Studies. ALP** Subjects, areas, or themes that embrace a range of disciplines that relate to visual studies. Instructor: Staff. One course.

**290-1. Gender and Sexuality in Japanese Anime Culture. ALP, CCI** One course. C-L: see Literature 312

295S. Sexualities in Film and Video. ALP One course. C-L: see Literature 315S; also C-L: Arts of the Moving Image 220S, Study of Sexualities

297. International Popular Culture. ALP, CCI One course. C-L: see Literature 370; also C-L: International Comparative Studies, Arts of the Moving Image, Latin American Studies

298. Film Theory. ALP, STS One course. C-L: see Literature 316; also C-L: Arts of the Moving Image 203, Women's Studies

299. Aesthetics: The Philosophy of Art. ALP, CZ One course. C-L: see Philosophy 202

301. Introduction To Visual Culture. ALP, CCI, CZ Survey of visual culture, from issues of production, circulation and reception to how visual media have historically exerted power, elicited desire, and constructed social experience. Topics include: how photography, television, film, video, Internet, advertising, comics, and other imagery code vision and inscribe race, gender, sexuality and class differences, and dominate nature and animals; how the gaze links cultural performativity, from the coliseum to shopping malls and museums to sports events; and how the rhetoric and semiotics of representation provide access to ways in which visual meaning is socially, politically, and culturally produced and obtained. (Team-taught.) Instructor: Olson, Stiles. One course.

302. Philosophy of Mind. CZ, R One course. C-L: see Philosophy 212; also C-L: Linguistics 208, Information Science and Information Studies

303. History of Photography, 1839 to the Present. ALP, CCI, CZ Major artists and movements in the history of the photographic medium, including visual and critical traditions inherited and manipulated by photographers, the ways photography participated in nineteenth- and twentieth-century art movements as well as documentation and social change, and critical photographic discourse throughout this period. Topics include the invention of photography, 'Art' photography and documentary photography in the nineteenth century, pictorialism, 'straight' and purist photography, photography and modernist art movements (dada, surrealism, Bauhaus, Russian avant-garde), twentieth-century documentary, and photography of the 1950s, 1960s, 1970s, 1980s, and 1990s. Instructor: Leighten. One course. C-L: Art History 303, Documentary Studies, Arts of the Moving Image

303S. This Is Your Brain on the Internet. ALP, EI, STS One course. C-L: see Information Science and Information Studies 225S

304. Media and National Security. SS, STS One course. C-L: see Public Policy Studies 364; also C-L: Policy Journalism and Media Studies

305S. Television Journalism. SS One course. C-L: see Public Policy Studies 365S; also C-L: Policy Journalism and Media Studies 365S, Information Science and Information Studies, Policy Journalism and Media Studies

306S. Magazine Journalism. SS, W One course. C-L: see Public Policy Studies 366S; also C-L: Documentary Studies 356S, Policy Journalism and Media Studies

307S. News Writing and Reporting. R, SS One course. C-L: see Public Policy Studies 367S; also C-L: Arts of the Moving Image, Policy Journalism and Media Studies

307S. Italian Cinema. ALP, CCI One course. C-L: see Italian 380; also C-L: Literature 215, Arts of the Moving Image 254, Theater Studies 276

309. French Cinema. ALP, CCI, FL One course. C-L: see French 412; also C-L: Arts of the Moving Image 251

310. World War II and French Film. CCI, CZ, EI, FL One course. C-L: see French 413; also C-L: Arts of the Moving Image 261, History 295
311. Comics and Culture: Images of Modern France in the Making. ALP, CCI, FL One course. C-L: see French 414

312. Yesterday's Classics/Today's Movies. ALP, CCI, FL One course. C-L: see French 415; also C-L: Arts of the Moving Image 262

313. Contemporary Culture Wars. CCI, CZ, EI, FL One course. C-L: see French 416

314S. French Films/American Masks. ALP, CCI, FL One course. C-L: see French 420S

316S. Mexicana Throught from North and South: Writing, Art, Film. ALP, CCI, FL One course. C-L: see Spanish 435S

317S. Russian Language and Culture through Film. CCI, FL, SS, STS One course. C-L: see Russian 373S

318. Eastern Europe in Transition: Markets, Media, and the Mafia. CCI, CZ, SS One course. C-L: see Russian 350; also C-L: Sociology 221, International Comparative Studies 270, Policy Journalism and Media Studies

319S. Russian Language and Culture through Film II. ALP, CCI, FL, SS, STS One course. C-L: see Russian 374S

320A. Contemporary Russian Media. CCI, EI, FL, SS One course. C-L: see Russian 223A; also C-L: International Comparative Studies, Arts of the Moving Image

321. Contemporary Russian Culture: Detective Novels and Film. ALP, CCI, CZ, FL One course. C-L: see Russian 377

322. Art and Dissidence: The Films of Tarkovsky, Kubrick, Kurosawa, and Lynch. ALP, CCI, CZ One course. C-L: see Russian 382; also C-L: Arts of the Moving Image 265, Arts of the Moving Image

323. American Drama and Film: 1945-1960. ALP One course. C-L: see Theater Studies 270

324. American Drama and Film Since 1960. ALP One course. C-L: see Theater Studies 271

325L. Optics and Photonics. NS One course. C-L: see Electrical and Computer Engineering 340L

326. Representing Slavery. ALP, CCI, EI, SS One course. C-L: see African and African American Studies 314; also C-L: Cultural Anthropology 314, International Comparative Studies 212

327S. Theories of Visual and Media Studies. ALP Survey of visual and media studies theories. Development of analytical methods to critically engage with analog and digital visual media production, circulation and consumption in a global context. Overview of the historical development of visual studies and media studies as distinct critical fields with intellectual ties to cultural studies, art history, philosophy, sociology, literature, communications, and information science. Exploration of contemporary convergences between visual and media studies, in dialogue with scientific visualization, cognitive neuroscience, and quantitative approaches to image processing. Course required for VMS majors. Prior completion of VMS 100D recommended. Instructor consent required. Instructors: Olson, Szabo, Weisenfeld. One course.

328S. Media Theory. STS One course. C-L: see Literature 317; also C-L: Arts of the Moving Image 204S, Information Science and Information Studies 214S

330. Gender and Popular Culture. CCI, SS, W One course. C-L: see Women's Studies 362

331S. Gender and Popular Culture. CCI, SS, W One course. C-L: see Women's Studies 362S

333S. Approaches to French Literature and Theory. ALP, CCI, FL, W One course. C-L: see French 306S

334. Roman Spectacle. ALP, CCI, CZ, EI Gladiator games, wild beast hunts, elaborately-staged executions of condemned criminals, and chariot racing as some of the most popular forms of public entertainment in the Roman world. The ritual of these entertainments and spectacles, the circumstances of and occasions for their performance, and the form and elaboration of the venues - the amphitheater, the circus, the theater, and the stadium - in which they took place. Visual and literary representations of these spectacles. Instructor: Dillon. One course. C-L: Classical Studies 354
335. The Art of Medieval Southern Italy. ALP, CCI, CZ, R The art and architecture of southern Italy from the ninth through the fourteenth centuries. The wide range of cultural influences and mixtures of populations that characterized the Kingdom of Sicily and the impact of these rich and diverse importations on the art and architecture of the southern part of the peninsula. Special importance placed on the Islamic contribution to Italian art and its development under the Norman kings of Sicily. Instructor: Bruzelius. One course. C-L: Medieval and Renaissance Studies 220

336. Pilgrimage and Tourism. ALP, CCI, CZ, EI, W Investigation of pilgrimage and tourist destinations (Jerusalem, Rome, Santiago, Orlando, New York) from the Middle Ages to the present through a study of their material remains, primary sources and theoretical texts. Discussion of the moral and ethical issues involved in marketing authenticity from a cross-cultural and comparative perspective. Evaluation based on weekly student written assessments of the texts and the presentation of a pilgrimage site of their choice. Instructor: Wharton. One course. C-L: Religion 260

338. Paris: A City and its Culture 1850 - 1930. ALP, CCI, CZ The development of Paris, from the major remodeling initiated under the Second Empire to the advent of modern style in the interwar years, focusing on the changes in architecture and planning which transformed the French capital into a model of urban modernity. The city as a physical environment that has to be understood in terms of varied populations, transport systems, economic activities, and cultural representations. The role played by visual arts in shaping the city, recording its appearance and interpreting its meanings, together with Paris's role as an environment favoring cultural production and exchange. Instructor: McWilliam. One course.

339. Print Culture. ALP, CCI, CZ Survey of the modern image-based print culture in its technological advancements and social impact, including case studies of key moments and exemplary aesthetic expressions in the history of image reproduction on paper. Topics include early woodcut illustrations; subsequent printmaking projects; the carte-de-visite; European fin-de-siècle popularity of poster art and Japanese woodcuts; twentieth-century photography and printmaking collectives in the Americas; and the photogravure's role in the rise of the pictorial magazine. Instructor: Powell. One course.

340. History of the Museum. ALP, CCI, CZ, R The purposes and functions of the museum as a Western institution from precursors to the present. The architecture, display practices, and pedagogical goals of art, natural history, and other museums. The incorporation of non-Western visual culture and the globalization of the museum in the contexts of colonialism and modernism. Comparative study of the treatment of Western and non-Western objects. Critical theory, aesthetics, and museum practices in terms of visual studies. Field research in museums required. Instructor: Abe. One course. C-L: International Comparative Studies

341. Chinese Visual Culture. ALP, CCI, CZ, R Introduction to visual culture produced in China from the Neolithic period to the present including archaeological discoveries of burials, tombs, temples, and palaces, the literati arts of calligraphy and painting, architecture, popular visual production, film, and fashion with attention to the role of overseas Chinese in recent history. Instructor: Abe. One course. C-L: International Comparative Studies

342. Contemporary Japanese Visual Culture. ALP, CCI, CZ, W Introduction to the art and visual culture of contemporary Japan concentrating on the postwar period, particularly 1980s to present. Performance art, installations, graphic and industrial design, photography, fashion, animation, and comics (manga). The transnational spread of popular culture within the Asia-Pacific region and the cross-cultural exchanges between East and West; the relationship between high art and popular culture; the impact of economic globalization and consumerism on visual culture. Instructor: Weisenfeld. One course.

344. Global Performance Art: History/Theory from 1950's to Present. ALP, CCI, CZ, EI Performance Art History/Theory explores cultural experimentation, theoretical strategies, and ideological aims of performance art internationally; examines interchanges between artists' theories of performance, stylistic development, and impact in the context of cultural criticism and art history; traces interdisciplinary genealogies of performance globally; thinks about the body as a vehicle for aesthetic expression, communication, and
information in its critique of social and political conditions; studies performance and gender, sexuality, race, and class; asks how performance alters the semiotics of visual culture and contributes to a paradigm shift from modernism to postmodernism. Instructor: Stiles. One course. C-L: Information Science and Information Studies 275, Literature 222, Theater Studies 235, Women's Studies 276

345. Cultural History of the Televisual. ALP, CZ, STS Critical history of the "televisual" in the American visual culture mediascape, broadcast television, cable television, and contemporary convergences with new media technologies, emphasizing social conceptions of television, and their influence on how the medium has emerged as a cultural, technological, and visual apparatus; consideration of the economic and social forces unfolding in the context of the televisual, examining the social forces shaping the development of television from its inception in the 1940s to the present-day. Instructor: Olson. One course. C-L: Information Science and Information Studies 283, Arts of the Moving Image 207, Policy Journalism and Media

346S. Visual Cultures of Medicine. ALP, STS Exploration of the visual culture(s) of medicine. The changing role of diagnostic visuality and medical imaging from various philosophical and historical perspectives. The connections between medical ways of seeing and other modes of visuality, photography, cinema, television, computer graphics. The circulation of medical images and images of medicine in popular culture as well as in professional medical cultures. Instructor: Olson. One course. C-L: Information Science and Information Studies 279S


348. Visual Culture and Photography. ALP How photographers create, document, and reflect visual culture, beginning with James Agee's notion of a photographer "ordering the façade" to interpretations, reflections, and comments on visual expressions in local landscapes and fieldwork. Instructor: Rankin. One course. C-L: Documentary Studies 203

349. Advanced Visual Practice. ALP Interdisciplinary course focusing on student productions. Mixing of new and traditional disciplines (multimedia), and visual manifestations of knowledge from the wider field of visual studies, as well as areas normally considered outside art encouraged. Any number of media accepted, including concentration in just one. Embraces international contemporary art, as well as the multiple expressions of visual society. Prerequisites: at least one 200-level Visual Arts class, and at least one Art History course or equivalent work. Instructor: Lasch. One course.

350S. The Photobook: History and Practice. ALP, CCI, CZ Cultural, intellectual and artistic history and uses of the book in photography practice. Traces technical, conceptual, formal innovations that mark international history of photography books through lectures/hands-on examination of key books, including lesser known innovations and uses of photobook in Eastern Europe, the Soviet Union and Japan. Marries historical awareness with studio practice. Simultaneous immersion in production of images as well as collecting of archives from various cultures. Crafting of photobooks in several genres as students edit, print, scan, assemble materials. Seminar includes readings, discussions, short writings, field trips. Consent of instructor required. Instructor: Noland. One course. C-L: Visual Arts 249S

351. 3D Modeling and Animation. ALP Basic concepts of 3D modeling and animation; fundamentals of computer geometry; knowledge of basic tools of 3D software (Maya); introduction to modeling, animation, texturing, lighting, and rendering; combination of these techniques in a final project. Prerequisite: Visual and Media Studies 206 or 396 and consent of instructor. Instructor: Salvatella de Prada. One course. C-L: Visual Arts 209
354S. Poetic Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 311S; also C-L: Arts of the Moving Image 266S

355. America Dreams, American Movies. ALP One course. C-L: see Theater Studies 272; also C-L: Arts of the Moving Image 212

355S. Foundations of Interactive Game Design. ALP, STS One course. C-L: see Information Science and Information Studies 355S

356S. Digital Humanities: Theory and Practice. ALP, STS One course. C-L: see Information Science and Information Studies 360S

357S. Digital Storytelling. ALP, STS, W One course. C-L: see Information Science and Information Studies 351S; also C-L: Literature 224S

358S. Digital Durham. ALP, STS One course. C-L: see Information Science and Information Studies 356S; also C-L: Education 356S

359. Introduction to Global Los Angeles: An Interdisciplinary Survey. ALP For students enrolled in the Duke in Los Angeles program. To explore Los Angeles as the model for a new global (visual) culture. Approaches include visual studies, art (installation, video, sculpture, murals, performance, theater, and music), ethnic studies, urbanism, environmental studies, public policy, history of social movements, border studies, immigration, and language acquisition. Class discussions, field trips, and independent research involved. Final project in lieu of final exam. Instructor: Gabara. One course. C-L: Arts of the Moving Image 283, Literature 230A

366. Media Remix: Sampling Theory. ALP, EI, STS One course. C-L: see Information Science and Information Studies 365

371S. Gender, Sexuality, and the Image. ALP, CCI, R, SS, W One course. C-L: see Women's Studies 371S; also C-L: Study of Sexualities 371S


391. Independent Study. Directed reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or report. Open to qualified students in the junior year, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

392. Independent Study. See Visual and Media Studies 391. Open to qualified students in the junior year, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to qualified students in the junior year, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

394. Research Independent Study. R See Visual and Media Studies 393. Open to qualified students in the junior year, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

395LS. Virtual Form and Space. Studio course that explores various applications of virtual environments and specific 3D modeling techniques. Introduction to animation principles. Screenings, discussions, and lab. Prerequisites: Visual Arts 199 and consent of instructor required. Instructor: Staff. One course. C-L: Information Science and Information Studies 208LS, Arts of the Moving Image 321LS, Visual Arts 208LS

397L. Interactive Graphics: Critical Code. ALP, QS
Introduction to interactive graphics programming for artists. Explores object-oriented programming via the Processing programming environment as well as historical and theoretical appreciation of interactivity and computer graphics as artistic mediums. Combines discussions of key concepts from the readings with hands-on Processing projects and critiques. No previous programming experience or prerequisites required. Enrollment limited to 15 students. Instructor: Alt. One course. C-L: Information Science and Information Studies 294L, Arts of the Moving Image 323, Visual Arts 242L, Policy Journalism and Media

412S. Cultures of New Media. ALP, SS, STS One course. C-L: see Cultural Anthropology 434S; also C-L: Literature 412S


433S. 20th Century Latin American Photography. CCI, CZ, FL One course. C-L: see Spanish 433S; also C-L: Art History 433S, International Comparative Studies 459S, Latin American Studies

460S. Multimedia Documentary: Editing, Production, and Publication. ALP One course. C-L: see Documentary Studies 460S; also C-L: Visual Arts 460S

470S. Advanced Documentary Filmmaking. One course. C-L: see Arts of the Moving Image 470S; also C-L: Documentary Studies 470S, Public Policy Studies 383S, Information Science and Information Studies

471. Financial Markets and Investment. QS, SS One course. C-L: see Economics 471

490S. Special Topics in Visual and Media Studies. ALP An advanced investigation of major concepts and principles in visual and media studies and/or theories of visual and media studies. Contents and methods vary with instructors. Instructor: Staff. One course.

491. Independent Study. Directed reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or report. Open only to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

492. Independent Study. See Visual and Media Studies 491. Open only to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

493. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

494. Research Independent Study. R See Visual and Media Studies 493. Open only to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

499S. Theories of Visual Studies. ALP, CCI, CZ, R Capstone seminar focusing on advanced visual studies theories, as well as individual senior projects undertaken as a written research paper or visual production. Consent of instructor required. Prerequisite: Visual and Media Studies 100D and 103S. Instructor: Abe, Olson, Stiles, Weisenfeld. One course.

506A. History of Netherlandish Art and Visual Culture in a European Context. ALP, CCI, CZ, R A contextual study of visual culture in the Greater Netherlands and its underlying historical and socioeconomic assumptions from the late medieval to early modern period, through immediate contact with urban cultures, such as Amsterdam, Leiden, Utrecht, Brussels, Ghent, Bruges, and Antwerp. Includes daily visits to major museums, buildings, and sites; hands-on research in various collections; discussion sessions with leading scholars in the field; and a critical introduction to various research strategies. (Taught in the Netherlands.) Not open to students who have taken Art History 262A-263A. Course credit contingent upon completion of Art


510S. Body as the Computer. ALP, NS, R, STS Weekly discussions/lectures related to different disciplinary understandings of the body, exploring new computational and aesthetic paradigms for brain/mind/body/environment relations, and working towards articulating bridging languages enabling researchers to talk across disciplines. Students required to participate in ongoing discussion, develop particular aspects of research and write a major research paper. Instructor: Seaman. One course. C-L: Information Science and Information Studies 666S, Visual Arts 510S, Arts of the Moving Image 622S

512S. Performing Gender/Exhibiting Race. ALP, R Studying intersections of race/gender in art since 1945 with host of visual subjects and methodological strategies. Examines works by e.g. Barkley L. Hendricks, David Hammons, Adrian Piper, Jean-Michel Basquiat, Faith Ringgold, Kara Walker. Traces theorizing gender/race through historical documents and contemporary writings. Focus on images in documentary and fine art photography; silent and sound film; broadcast television and video art past/present. Assorted critical writings on mass media imagery. Opportunities for introduction of artists, art works, issues external to syllabus. Instructor: Powell. One course.


524S. AfroFuturism. ALP One course. C-L: see African and African American Studies 620S; also C-L: Dance 535S, Theater Studies 535S


551LS. Wired! New Representational Technologies. ALP, CZ, STS Research and study in material culture and the visual arts expressed by using new visual technologies to record and communicate complex sets of visual and physical data from urban and/or archaeological sites. Introduces techniques for the presentation and interpretation of visual material through a series of interpretative and reconstructive technologies, including the development of web-pages (HTML/Dreamweaver), Photoshop, Illustrator, Google Sketch-up, Google Maps, and Flash. To develop techniques of interpretation and representation. Consent of instructor required. Instructor: Brady, Bruzelius, Dillon, or Olson. One course.

552. Citizen Godard. ALP, CCI, W One course. C-L: see French 510; also C-L: Arts of the Moving Image 642

553S. From Caricature to Comic Strip. ALP, CCI, CZ, R History of caricature as a medium for political critique and social comment from the eighteenth century to the present, focusing on England, France, Germany, and the United States. Languages of graphic satire in the context of specific historical moments, from the War of Independence to the war in Iraq; history of popular journalism and the comic press; censorship and agitation for press freedom; growth of specialized juvenile graphic magazines and the development of the strip cartoon. Instructor: McWilliam. One course.
554S. Experimental Communities. ALP, CCI, CZ, EI Interdisciplinary seminar examining visual culture and experimental social structures. Readings across academic spectrum focusing on alternative corporate models and workers' unions, early soviet social networks, neighborhood associations, anarchist communes, art collectives, minority alliances, reality TV, fan clubs and fundamentalist organizations, encouraging students to fuse theories of social change with practice to produce new social structures. Class productions may include research papers, performances, experimental theater, social actions, new media works, as well as conventional art forms. Work will be judged by its formal sophistication or aesthetic merits, its social or political relevance, and its engagement with methods of ethical inquiry studied throughout the semester. Consent of instructor required. One course. C-L: Sociology 636S, Visual Arts 554S

555S. Black Visual Theory. ALP, CCI, CZ, EI, R Approaches to studying and theorizing of African diasporal arts and black subjectivity, with a special emphasis on art historiography, iconology, and criticism, and a particular focus on slavery, emancipation, freedom, and cultural nationalism, as pertaining to peoples of African descent and as manifested in such visual forms as paintings, sculptures, graphics, and media arts from the early modern period to the present, as well as the political edicts, philosophical tracts, autobiographies, and theoretical writings of individuals similarly preoccupied with these ideas. Consent of instructor required. Instructor: Powell. One course. C-L: African and African American Studies 589S

556S. Latin American Modernism and Visual Culture. ALP, CCI, CZ, R Early twentieth-century modernist movements in Spanish America, Brazil, and the Caribbean. Topics include: race, primitivism, and indigenism; gender; theory of the avant-garde; peripheral modernity; and nationalism, regionalism, and cosmopolitanism. Instructor: Gabara. One course. C-L: Latin American Studies

557S. Trauma in Art, Literature, Film, and Visual Culture. ALP, CZ, EI Theories of trauma applied to visual representations of violence, destruction, and pain in contemporary art, film, and literature, examining the topic through multiple subjects from the Holocaust, cults, gangs, racism, and sexual abuse to cultures of trauma. Theories of trauma examined from a variety of sources including clinical psychology, cultural and trauma studies, art, film, and literature, aiming to enable students to gain the visual acuity to identify, understand, and respond to traumatic images with empathy. Not open to students who have previously taken this course as Art History 295S. Instructor: Stiles. One course.

558S. Spatial Practices. ALP, CCI, CZ, R How space works from medieval refectories to Starbucks, from Jerusalem to Las Vegas, from mikvaot to hot spring spas. Consideration of space through theoretical texts, including Lefebvre, Habermas, Eliade, Zizek, and mapped on specific historical landscapes. Consent of instructor required: preference given to students earning concentration in architecture. Instructor: Wharton. One course.

559S. Urbanism. ALP, CCI, CZ Introduction to urbanism through considerations of the political, social and economic forces that model urban space. Assessment of the expression in urban topography of state power, disempowered communities, competing ethnicities, religious groups. Readings include canonical works of urban history (Vitruvius, Jacobs), theory (Benjamin, Lefebvre), novels and media (Visconti, Zola). Instructor: Wharton. One course.

560S. Poverty of the Visual. ALP, CCI, CZ, EI Interdisciplinary seminar on the relationship between visuality and poverty from 1945 to the present. Theorizes visual culture through an examination of the forms of knowledge produced by impoverished populations. Uses philosophical and perceptual methods to explore the limits and limitations of visuality as it applies to science, ethics, the humanities, and the arts. Readings in the humanities and social sciences focus on issues related to lack, scarcity, absence, minimalism, and invisibility. Students encouraged to fuse theory and practice in research presentations and visual productions. Consent of instructor required. Instructor: Lasch. One course.

561S. Critical Studies in New Media. ALP, R, SS, STS One course. C-L: see Information Science and Information Studies 650S; also C-L: Literature 621S, Art History 537S, Arts of the Moving Image, Policy Journalism and Media Studies
562S. Technology and New Media: Academic Practice. SS, STS One course. C-L: see Information Science and Information Studies 540S; also C-L: Art History 536S

563. Media and Democracy. CCI, SS One course. C-L: see Public Policy Studies 674; also C-L: Information Science and Information Studies, Policy Journalism and Media Studies

564S. Emergent Embodied Interface Design. ALP, STS Seminar exploring issues surrounding embodied approaches to interface design, including bio-memetics; haptic body knowledge; multi-modal sensing; physical computing; physical | digital relationships; networked relations; the potentials of virtual space and different qualities of space, both visual and sonic; as well as database potentials, and emergent generative methodologies for creating works of art, drawings, and diagrams related to these subjects. Instructor: Seaman. One course. C-L: Information Science and Information Studies 564S, Arts of the Moving Image 620S

565S. New Media, Memory, and the Visual Archive. ALP, STS Explores impact of new media on the nature of archives as technologies of cultural memory and knowledge production. Sustained engagement with major theorists of the archive through the optics of "media specificity" and the analytical resources of visual studies. Themes include: storage capacity of media; database as cultural form; body as archive; new media and the documentation of "everyday life;" memory, counter-memory, and the politics of the archive; archival materiality and digital ephemerality. Primary focus on visual artifacts (image, moving image) with consideration of the role of other sensory modalities in the construction of individual, institutional and collective memory. Instructor: Olson. One course. C-L: Information Science and Information Studies 565S, Policy Journalism and Media

566S. How They Got Game: History and Culture of Interactive Simulations and Video Games. ALP, STS One course. C-L: see Information Science and Information Studies 510S


568S. Digital Places and Spaces: Mirror, Hybrid, and Virtual Worlds. ALP, SS, STS One course. C-L: see Information Science and Information Studies 660S


590S. Special Topics in Visual Studies. ALP Subjects, areas, or themes that embrace a range of disciplines related to visual studies. Instructor: Staff. One course.

625S. Comparative Media Studies. ALP, STS One course. C-L: see Literature 625S; also C-L: Information Science and Information Studies 615S

THE MAJOR

The student will elect a sequence of courses emphasizing the history of art, visual arts, visual and media studies, or the combined major in art history/visual arts.

Art History

Major Requirements. The major in art history requires at least eleven courses, eight of which are at the 200-level or above. Both introductory art history courses, Art History 101D and 102D (Survey of Art), are required, as well as Visual Arts 101 (Introduction to Visual Practice). The other eight courses must include at least one course in each of the following five areas: ancient, medieval, Renaissance/Baroque, modern, and non-western, and may include two courses in Visual and Media Studies. One of the eleven courses must be a 500-699-level seminar.
The requirements and prerequisites for the major can be satisfied by courses taken at other institutions or abroad, but no more than two courses taken away from Duke may count towards the major. Further courses are available for credit at North Carolina State University and the University of North Carolina at Chapel Hill.

Students planning to attend graduate school should consider taking two 500-699-level seminars: Art History 543S (Methodology of Art History), and a second seminar in the same field as a 200-level course already taken by the student. For example, Art History 255 (Art in Renaissance Italy), is a logical preparation for Art History 590S-4 (Topics in Italian Renaissance Art). Two years of a foreign language at the college level are strongly recommended. Students interested in preparing for graduate work in architecture should supplement their major requirements with the following courses: Visual Arts 101 and 199; Mathematics 111L, 112L, and 212; and/or Physics 141L or 142L; and/or Civil and Environmental Engineering 311 or 411. No more than two approved courses taken away from Duke (at other institutions or abroad) may count toward the requirements of the major.

**Concentration in Architecture**

The department offers a B.A. degree in art history with a Concentration in Architecture. Certification of this concentration is designated on the official transcript. Thirteen courses are required in four broad areas: (1) Either Art History 491/493 or 492/494 on a subject approved by the concentration in architecture advisor, or a relevant 500-699-level seminar; (2) seven additional courses in Art History, including at least three of the following: Art History 225, 226, 258, 382, 285 or 286D, or topics courses that focus on space or architecture in Visual and Media Studies or Art History; (3) two courses in the Visual Arts, including Visual Arts 100; (4) three courses in Mathematics, Physics, and/or Engineering courses that offer or require advanced math or physics skills (recommended courses include Mathematics 111L, 112L, and 212; Physics 141L or 142L; Civil and Environmental Engineering 311 or 411). Distribution requirements for the major must be fulfilled.

**Visual Arts**

**Major Requirements.** The major in visual arts requires at least eleven courses including Visual Arts 101 (Introduction to Visual Practice); seven courses in Visual Arts at the 200-level or above, including at least one course in three of the following: painting, printmaking, sculpture, graphic design, photography, film/video/digital; and two courses either in Art History and/or Visual and Media Studies. All senior visual arts majors are also required to take Visual Arts 498S (Senior Capstone in Visual Arts) during their final spring semester at Duke. Students are highly encouraged to enroll in an independent study during their junior or senior year as one of their upper-level requirements, and prior to their Senior Capstone experience.

The requirements and prerequisites for the major can be satisfied by courses taken at other institutions or abroad, but no more than two courses taken away from Duke may count towards the major. Further courses are available for credit at North Carolina State University and the University of North Carolina at Chapel Hill.

**Visual and Media Studies**

**Major Requirements.** The Visual and Media Studies major requires thirteen courses, at least eight of which must be at the 200-level or above. Courses required for the major include: Visual and Media Studies 301D (Introduction to Visual Culture), Visual and Media Studies 327S (Theories of Visual and Media Studies) and the capstone course Visual and Media Studies 499S (Visual and Media Studies Capstone), as well as ten additional courses to be divided as follows: two courses in visual and media history or art history; two courses in visual and media practice; three Visual and Media Studies electives; and three previously approved cross-listed courses in another department.

The requirements and prerequisites for the major can be satisfied by courses taken at other institutions or abroad, but no more than two courses taken away from Duke may count towards the major. Further courses are available for credit at North Carolina State University and the University of North Carolina at Chapel Hill.

**COMBINED MAJOR IN ART HISTORY/VISUAL ARTS**

**Major Requirements.** A combined major in Art History and Visual Arts requires at least fourteen courses. These include: Visual Arts 199 (Drawing) and Art History 101D or 102D (Survey of Art); and twelve upper-level courses. The twelve upper-level courses are to be divided as follows:
Art History: Six upper-level courses distributed across the fields of ancient, medieval, Renaissance/Baroque, modern, and non-western (pre-Columbian, African, Asian). Students must take at least one course in four of these five areas. At least one of these courses must be a 500-699-level seminar.

Visual Arts: Six 200-level courses including a minimum of one course in at least three of the following primary areas of instruction: film/video/digital, graphic design, painting, photography, printmaking, and sculpture. Students are encouraged to enroll as seniors in an independent study and, during the spring of that year, in Visual Arts 390S (Special Topics in Visual Arts).

Departmental Graduation with Distinction
The department offers work leading to graduation with distinction. See the section on honors in this bulletin.

THE MINOR
Two transfer courses may count toward the requirements for the minor; courses taken pass/fail or Advanced Placement credits do not count towards the minor.

Art History
Requirements: Five courses in art history at the 200 level or above.

Photography
Requirements: Five courses at the 200 level or above, with the following courses required: Visual Arts 214 (Introduction to Photography); Art History 303 (History of Photography, 1839 to the Present); and Visual Arts 492 (Individual Project).

Visual Arts
Requirements: Five courses in visual arts at the 200 level or above.

Visual and Media Studies
Requirements: Five courses to be distributed as follows: any three courses at the 200 level or above in visual and media studies and any two courses in any cross-listed discipline previously approved for the visual and media studies major.

Arts of the Moving Image (AMI)
Associate Professor Abe, Director
A certificate, but not a major, is available in this program
The Program in the Arts of the Moving Image provides students with the opportunity to study, analyze, and create film, video, television, digital media, and emergent computational art forms. Courses are taught in both arts of the moving image studies and arts of the moving image practice. Students may concentrate in one of these areas, or take courses in both.

ARTS OF THE MOVING IMAGE STUDIES
Students develop critical understanding of the history, theory, and art form of cinema and computational media technologies. Courses offered in arts of the moving image studies include introduction to film, documentary film, film history, national cinemas, and new media. Course credit is also available for internships.

ARTS OF THE MOVING IMAGE PRACTICE
Students gain expertise in a wide range of technologies, from analog film creation and cell animation to digital video creation, motion graphics and computational programming. Courses offered in arts of the moving image practice include narrative, animation, documentary and experimental filmmaking, and interactive media. Independent Study credit is also available for individual projects for advanced students, but no more than two may count towards the certificate.

CERTIFICATE REQUIREMENTS
Students must take a minimum of six courses, which must include at least one gateway course, either Introduction to Arts of the Moving Image (Arts of the Moving Image 101), History and Concepts of Cinema
(Arts of the Moving Image 201), or Moving Image Practice (Arts of the Moving Image 301S), and the Arts of the Moving Image Capstone Course (Arts of the Moving Image 499S). Additionally, students must take at least one arts of the moving image practice course, which may include Arts of the Moving Image 301S, and one arts of the moving image studies course, which may include Arts of the Moving Image 101 or Arts of the Moving Image 201, plus three other arts of the moving image courses. For the certificate, students may take no more than three courses originating in a single department or program, other than those originating in the Program in the Arts of the Moving Image.

**SCREEN SOCIETY**

Arts of the Moving Image organizes and coordinates Screen/Society, an academically integrated program of public film and video screenings, sometimes accompanied by lectures, discussions, or filmmaker visits. Screen Society's mission is to advance the academic study of moving image culture at Duke by collaborating with schools, departments and programs throughout the University to relate film, video, and digital art to other disciplines, and to provide a venue for works from around the world.

**ARTS OF THE MOVING IMAGE STUDIES COURSES**

**89S. First-Year Seminar. ALP** Topics vary each semester offered. Instructor: Staff. One course.

**101. Introduction to the Arts of the Moving Image. ALP** Examination of critical concepts in arts of the moving image from various perspectives. Spanning both traditional cinema and emergent fields. Emphasis on technology in relation to history and viewership. Exercises in film and digital production as well as theoretical writing. Instructor: Gatten. One course. C-L: Visual and Media Studies 102, Visual Arts 102, Information Science and Information Studies 111, Literature 111

**190A. Duke-Administered Study Abroad: Special Topics in Film and Video.** Topics differ by section. Instructor: Staff. One course.

**195FS. Virtual Form and Space. ALP** One course. C-L: see Visual Arts 195FS; also C-L: Information Science and Information Studies 195FS


**203. Film Theory. ALP, STS** One course. C-L: see Literature 316; also C-L: Visual and Media Studies 298, Women's Studies

**204S. Media Theory. STS** One course. C-L: see Literature 317; also C-L: Information Science and Information Studies 214S, Visual and Media Studies 328S

**205. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. ALP, CCI, STS** Integrated with the films and filmmakers of the Full Frame Documentary Film Festival. The art form, style, and technology of contemporary documentary films. Issues of autonomy and power, politics, and public policies. Analysis of outstanding films from around the world. Presentations and discussions by filmmakers. Not open to students who have taken this course as Film/Video/Digital 129. Instructor: Paletz and

207. Cultural History of the Televisual. ALP, CZ, STS One course. C-L: see Visual and Media Studies 345; also C-L: Information Science and Information Studies 283, Policy Journalism and Media Studies

210. Film Genres. ALP A historical survey of motion picture genre as a stylistic and narrative device, including comedy, horror, the musical, the western, and science fiction. Instructor: Hadjioannou. One course. C-L: Literature 220, Visual and Media Studies 267

211. American Film Comedy. ALP A historical survey of American film comedy from silent cinema to contemporary television and film. Instructor: Staff. One course. C-L: English 382, Literature 221, Visual and Media Studies 268

212. America Dreams, American Movies. ALP One course. C-L: see Theater Studies 272; also C-L: Visual and Media Studies 355

213. Film and Politics. ALP, EI, R, SS One course. C-L: see Political Science 386S


215. Animated Film: A History and Aesthetic. ALP, STS Evolution of animation from the philosophical "toys" of the late eighteenth century to the major international entertainment form of today. Special focus on American animation as it evolved from inspired individuals like Emile Cohl and Winsor McCay to a full-blown industrial model allowing for the creation of the animated feature and contemporary special effects. Instructor: Burns. One course. C-L: Visual Arts 328, Information Science and Information Studies 211

215S. Discourse of Disease and Infection. ALP, CCI, CZ, STS One course. C-L: see Asian & Middle Eastern Studies 409S; also C-L: International Comparative Studies 404S, Visual and Media Studies 238S

216. Women in Film. ALP, CCI One course. C-L: Women's Studies 227, Literature 219, Study of Sexualities 225

220S. Sexualities in Film and Video. ALP One course. C-L: see Literature 315S; also C-L: Visual and Media Studies 295S, Study of Sexualities

230S. Sound, Music, and the Moving Image. ALP, CCI, CZ, W One course. C-L: see Music 129S; also C-L: International Comparative Studies

246S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: African and African American Studies 247S, International Comparative Studies 320S


248. Movies of the World/The World of Movies. ALP, CCI, STS One course. C-L: see Literature 313; also C-L: German 363, Russian 384, Islamic Studies

249S. States of Exile and Accented Cinemas. ALP, CCI, EI, SS One course. C-L: see Literature 314S; also C-L: Islamic Studies, Latin American Studies

250. Modern Chinese Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 431; also C-L: Literature 214, Visual and Media Studies 235

251. French Cinema. ALP, CCI, FL One course. C-L: see French 412; also C-L: Visual and Media Studies 309

252D. German Film. ALP, CZ One course. C-L: see German 264D; also C-L: Visual and Media Studies 280D

252S. German Film. ALP, FL One course. C-L: see German 441S; also C-L: Visual and Media Studies 276S

253. Indian Cinema. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 251; also C-L: Literature 211, Visual and Media Studies 231
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Department(s)</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>254</td>
<td>Italian Cinema; ALP, CCI</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Italian 380; also C-L: Literature 215, Visual and Media Studies 308, Theater Studies 276</td>
</tr>
<tr>
<td>255</td>
<td>Japanese Cinema; ALP, CCI, CZ</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 261; also C-L: Literature 213, Visual and Media Studies 232</td>
</tr>
<tr>
<td>256</td>
<td>World of Korean Cinema; ALP, CCI, CZ, EI</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 471; also C-L: Literature 212, Visual and Media Studies 234</td>
</tr>
<tr>
<td>257</td>
<td>Contemporary Israeli Cinema; ALP, CCI, EI</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 241; also C-L: Literature 217, Jewish Studies 241, Women's Studies 214, Islamic Studies</td>
</tr>
<tr>
<td>259</td>
<td>Colonial Cinema and Post-Colonial Reflections; ALP, CCI, CZ</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 301; also C-L: Literature 210, International Comparative Studies 301</td>
</tr>
<tr>
<td>260</td>
<td>Anime: Origins, Forms, Mutations; ALP, CCI</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 361</td>
</tr>
<tr>
<td>261</td>
<td>World War II and French Film; CCI, CZ, EI, FL</td>
<td>One course.</td>
<td>C-L:</td>
<td>see French 413; also C-L: History 295, Visual and Media Studies 310</td>
</tr>
<tr>
<td>262</td>
<td>Yesterday's Classics/Today's Movies; ALP, CCI, FL</td>
<td>One course.</td>
<td>C-L:</td>
<td>see French 415; also C-L: Visual and Media Studies 312</td>
</tr>
<tr>
<td>263</td>
<td>Screening the Holocaust: Jews, WWII, and World Cinema; ALP, CCI, CZ, EI</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 341; also C-L: Jewish Studies 266</td>
</tr>
<tr>
<td>264</td>
<td>Russian Revolutionary Cinema; CCI, CZ</td>
<td>One course.</td>
<td>C-L:</td>
<td>see History 281; also C-L: Russian 381, Marxism and Society</td>
</tr>
<tr>
<td>265</td>
<td>Art and Dissidence: The Films of Tarkovsky, Kubrick, Kurosawa, and Lynch; ALP, CCI, CZ</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Russian 382; also C-L: Visual and Media Studies 322, Arts of the Moving Image</td>
</tr>
<tr>
<td>266S</td>
<td>Poetic Cinema; ALP, CCI, CZ</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 311S; also C-L: Visual and Media Studies 354S</td>
</tr>
<tr>
<td>267</td>
<td>Existentialist Cinema; ALP, CCI, CZ, EI, STS</td>
<td>One course.</td>
<td>C-L:</td>
<td>see German 386; also C-L: Theater Studies 372, Literature 218, Visual and Media Studies 283</td>
</tr>
<tr>
<td>268</td>
<td>Chinese Im/migration: Chinese Migrant Labor and Immigration to the US; ALP, CCI, EI, SS</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 409; also C-L: International Comparative Studies 434</td>
</tr>
<tr>
<td>268S</td>
<td>Trauma and Nostalgia: East European Film in the 21st Century; ALP, CCI, CZ, EI</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Slavic and Eurasian Studies 288S; also C-L: Literature 216S</td>
</tr>
<tr>
<td>270</td>
<td>Traffic in Women: Cultural Perspectives on Prostitution in Modern China; ALP, CCI, SS</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Asian &amp; Middle Eastern Studies 333; also C-L: Cultural Anthropology 334, Women's Studies 233, Study of Sexualities 233</td>
</tr>
<tr>
<td>283</td>
<td>Introduction to Global Los Angeles: An Interdisciplinary Survey; ALP</td>
<td>One course.</td>
<td>C-L:</td>
<td>see Visual and Media Studies 359, Literature 230A</td>
</tr>
<tr>
<td>290</td>
<td>Special Topics in Film Studies; Special Topics in Film Studies.</td>
<td>Special Topics in Film Studies. Instructor: Staff. One course.</td>
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<tr>
<td>290S</td>
<td>Special Topics in Film Studies; Seminar version of Arts of the Moving Image 290</td>
<td>Special Topics in Film Studies. Seminar version of Arts of the Moving Image 290. Instructor: Staff. One course.</td>
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<tr>
<td>295A</td>
<td>Media Internship in Los Angeles; Immersion in the for-profit and not-for-profit art and entertainment worlds through apprenticeship to a sponsoring artist, scholar, or institution selected to match each student's area</td>
<td>Immersion in the for-profit and not-for-profit art and entertainment worlds through apprenticeship to a sponsoring artist, scholar, or institution selected to match each student's area</td>
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</table>
of interest. Each student required to submit a substantive paper containing significant analysis and interpretation that considers the relationship between the student's sponsoring institution and the larger industrial/cultural complex within the local (Los Angeles) and national economies of art, culture, and commerce. Simultaneous enrollment in Literature 290AS-1 required. Open only to students admitted to the Duke in Los Angeles Program. Instructor: Staff. One course.

297SA. Writing the Hollywood Cyber Journal. ALP Seven week research and development of the web publication of a class journal on modern Hollywood practices/industries, public policy issues, and controversies confronting these industries including the culture wars, media violence, intellectual properties, and new technologies. Culminates with presentations in a class-planned conference interacting with industry professional respondents. Must be enrolled in the Duke in Los Angeles Program. Instructor: Thompson. Half course. C-L: Information Science and Information Studies 224AS

301S. Moving Image Practice. ALP, STS Film and digital video production in conjunction with the history and theory of these technologies. Students may produce work in 8mm, 16mm film and digital video and learn the basics of non-linear digital editing on Final Cut Pro. Not open to students who have taken this course as Film/Video/Digital 100S. Instructor: Staff. One course. C-L: Theater Studies 370S, Visual and Media Studies 261S, Information Science and Information Studies

302S. Transforming Fiction for Stage and Screen. ALP, W One course. C-L: see Theater Studies 282S; also C-L: English 227S

303S. From Stories to Movies. ALP, W One course. C-L: see Theater Studies 274S

304S. Adapting Literature -- Producing Film. ALP Collaborative exploration of the process of adapting literature for production of documentary and or dramatic film projects. Generally linked to the production of a PBS or independent documentary film or the production of a short dramatic film. Students gain an understanding of the interdisciplinary aspects of filmmaking. Instructor: James. One course. C-L: Documentary Studies 276S, Visual Arts 228S, Information Science and Information Studies

305S. Screenwriting. ALP, W One course. C-L: see Theater Studies 273S; also C-L: English 317S

306S. Writing the Movie. Introduction to the theory and practice of writing for the screen. ALP, W One course. C-L: English 221S

310S. Acting For the Camera. ALP One course. C-L: see Theater Studies 275S

320S. Film Animation Production. ALP Experimentation with various media; mastering animation techniques such as metamorphosis, timing, articulation, storytelling, sound design, special effects, and camera. Each student to produce a one-minute animated film on the Oxberry 16mm film animation stand. Not open to students who have taken this course as Film/Video/Digital 102S. Instructor: Burns. One course. C-L: Visual Arts 326S, Visual and Media Studies 271S, Information Science and Information Studies

321LS. Virtual Form and Space. One course. C-L: see Visual Arts 208LS; also C-L: Information Science and Information Studies 208LS

322S. Motion Graphics in Film and Video. ALP, STS An advanced post-production course designed to explore the history, theory, and practice of motion graphics techniques in film and video. Students produce digital motion sequences out of still images and create multiple motion paths through exposure to applications such as Adobe After Effects, Final Cut Pro, iMovie. Not open to students who have taken this course as Film/Video/Digital 109S. Consent of instructor required. Instructor: Staff. One course. C-L: Visual and Media Studies 272S, Visual Arts 236S


325. Fundamentals of Web-Based Multimedia Communications. ALP, QS, R One course. C-L: see Information Science and Information Studies 240; also C-L: Visual and Media Studies 288, Policy Journalism and Media Studies

156 Courses and Academic Programs
330S. Documentary Film/Video Theory and Practice. ALP The politics and aesthetics of realism. History of styles from Griersonian "propaganda" to cinema verite and "reality TV." Practical exercises in location sound, camera to subject relationship, and camera movement. Prerequisite: English 181, Literature 110, Literature 111S, or Theater Studies 171. Not open to students who have taken this course as Film/Video/Digital 104S. Instructor consent required. Instructor: Staff. One course. C-L: Cultural Anthropology 355S, Visual and Media Studies 273S, Documentary Studies


332S. Planning the Documentary Film: From Concept to Treatment. ALP, R One course. C-L: see Documentary Studies 273S; also C-L: Visual and Media Studies 220S, Information Science and Information Studies

333S. Editing the TV Documentary: From Creativity to Collaboration to Negotiation. ALP "Behind the scenes" look at editing a long form documentary for broadcast television. Discussions, readings and hands-on editing exercises introducing students to the language of editing and the tricky negotiations often needed to bring a film to dissemination. Instructor: Cutler. One course. C-L: Documentary Studies 279S, Visual and Media Studies 274S, Policy Journalism and Media

334S. Producing Docu-Fiction. ALP Investigation of hybrid, genre-defying films that question traditional definitions of documentary and fiction. Emphasis on experimental forms, documentary reenactment, mockumentary and dramatized "true stories." Exploration of both documentary and fiction production techniques, culminating in the production of a final video project. Instructor: Gibson. One course. C-L: Documentary Studies 278S

335S. Video for Social Change. ALP, CCI, SS One course. C-L: see Documentary Studies 271S; also C-L: Public Policy Studies 375S

336S. Documentary and Policy: How Documentary Influences Policy. ALP One course. C-L: see Documentary Studies 272S; also C-L: Public Policy Studies 228S

340S. Experimental Filmmaking. ALP The history of avant-garde in film and video combined with production exercises. Instructor: Staff. One course. C-L: Visual Arts 229S

343S. Dance for the Camera. ALP, R, STS One course. C-L: see Dance 306S; also C-L: Documentary Studies 242S

350S. Sound for Film and Video. ALP, STS One course. C-L: Documentary Studies 277S, Music 121S, Information Science and Information Studies 243S


356S. 16mm Film Production. ALP Hands-on experience with 16mm motion picture film and photography. In-depth exploration of the techniques and aesthetics of film production, including basic screen writing, lighting, story telling, and editing. Each student will produce an individual 16mm film. Instructor: Burns. One course.

357S. Editing for Film and Video. ALP Theory and practice of film and video editing techniques. Exploration of traditional film cutting as well as digital non-linear editing. Exercises in narrative, documentary and experimental approaches to structuring moving image materials. Instructor: Staff. One course. C-L: Information Science and Information Studies 248S, Documentary Studies 288S
358S. Electronic Music and Video Workshop. ALP, STS One course. C-L: see Music 275S; also C-L: Visual Arts 258S

360S. Television Production Techniques. ALP Introduction to broadcast television techniques, including live multi-camera production, studio operations, field production and digital nonlinear editing. Practical experience in the production of a cable television program combined with industry study and theoretical readings. Instructor: Staff. One course.


390S. Special Topics in Film and Digital Video Production. ALP, STS An in-depth investigation of a particular production technology combined with an emphasis on an aesthetic or theoretical strategy. Exploration of lighting, cinematography, directing for camera, and/or nonlinear post-production techniques. Instructor: Staff. One course. C-L: Information Science and Information Studies

395. Internship. Students may arrange academic work in conjunction with approved internship in the moving image industry. Academic work must be with AMI faculty and include the university minimum (one research paper) as well as reading from bibliography and/or viewing list approved by instructor in advance. Prerequisite: (one of the following) AMI 101, AMI 201, 202, or 301. Instructor: Staff. One course.


460S. Advanced Animation. ALP Concentration on selected media primarily two-dimensional but including three dimensional forms. Animation camera including camera effects, motion analysis, and effects animation. American studio styles compared to independent artist animators. Instructor: Burns. One course. C-L: Visual Arts 470S

470S. Advanced Documentary Filmmaking. Intermediate to advanced filmmaking techniques. Presumes a working knowledge of Final Cut Pro, mini-DV camera, and some fieldwork experience with a camcorder. Topics include fieldwork in a variety of communities and work on pertinent social and cultural issues. Not open to students who have taken this course as Film/Video/Digital 116S. Prerequisite: Documentary Studies 105S or equivalent experience and knowledge. Consent of instructor required. Instructor: Staff. One course. C-L: Documentary Studies 470S, Public Policy Studies 383S, Visual and Media Studies 470S, Information Science and Information Studies

480S. Advanced Production Projects. ALP Project-based course for advanced students to undertake preconceived film or digital productions. Consent of instructor required. Instructor: Gibson. One course.

490S. Special Topics In Arts of the Moving Image. Advanced special topics investigation of major concepts and principles in arts of the moving image. Content varies with instructors. Instructor: Staff. One course.

491. Individual Project. Independent work open to highly qualified juniors and seniors on recommendation of instructor and/or invitation of department. Instructor: Staff. One course.

491-1. Individual Project. Independent work open to highly qualified juniors and seniors on recommendation of instructor and/or invitation of department. Instructor: Staff. Half course.

499S. Capstone Course in Arts of the Moving Image. ALP, STS Culminating seminar for Arts of the Moving Image Program certificate students. Designed to allow students to complete their certificate with a finished project or advanced research in the field. Instructor: Staff. One course.

610S. Basic Concepts in Cinema Studies. ALP One course. C-L: see Literature 610S
620S. Emergent Embodied Interface Design. ALP, STS One course. C-L: see Visual and Media Studies 564S; also C-L: Information Science and Information Studies 564S

622S. Body as the Computer. ALP, NS, R, STS One course. C-L: see Visual Arts 510S; also C-L: Information Science and Information Studies 666S

630. The Ongoing Moment: Presentations of Time in Still and Moving Images. ALP, R One course. C-L: see Visual Arts 630

640S. Literary Guide to Italy. ALP, CCI, CZ One course. C-L: see Italian 586S; also C-L: Literature 542S, German 586S

641. Documentary and East Asian Cultures. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 511; also C-L: Documentary Studies 511

642. Citizen Godard. ALP, CCI, W One course. C-L: see French 510; also C-L: Visual and Media Studies 552

643S. Environmental Issues & the Documentary Arts. ALP One course. C-L: see Documentary Studies 615S; also C-L: Environment 615S

644S. Third Cinema. ALP, CCI, EI, SS, STS One course. C-L: see Literature 613S; also C-L: African and African American Studies 530S, International Comparative Studies 613S, Latin American Studies 613S

690S. Special Topics in Arts of the Moving Image. ALP Focus on aspects of Arts of the Moving Image. Topics vary. One course.

691. Independent Study. One course.

RELATED COURSES OFFERED REGULARLY

African and African American Studies
330. Film and the African Diaspora

Art History
303. History of Photography, 1839 to the Present
537S. Critical Studies in New Media
782. Art and Dissidence: Films of Tarkovsky, Kubrick, Kurosawa, and Lynch

Arts of the Moving Image
265. Art and Dissidence: The Films of Tarkovsky, Kubrick, Kurosawa, and Lynch

Asian & Middle Eastern Studies
311S. Poetic Cinema

Cultural Anthropology
130. Anthropology and Film
130D. Anthropology and Film
170. Advertising and Society: Global Perspective

Documentary Studies
233S. American Communities: A Photographic Approach
415S. Advanced Documentary Photography

English
180. Introduction to Cultural Studies
226S. Dramatic Writing
326S. Advanced Dramatic Writing
390-6. Special Topics in Film
390S-6. Special Topics in Film

German
264. German Film
386. Existentialist Cinema

Information Science and Information Studies
510S. How They Got Game: History and Culture of Interactive Simulations and Video Games
650S. Critical Studies in New Media

International Comparative Studies
104. Anthropology and Film

Italian
587S. Cinema and Literature in Italy

Literature
150. Introduction to Cultural Studies

Arts of the Moving Image (AMI) 159
218. Existentialist Cinema
290S-2. Special Topics in National Cinema
370. International Popular Culture
371. Problems in Global Culture
371S. Problems in Global Culture
390S-4. Special Topics in Film
610S. Basic Concepts in Cinema Studies
611S. Film Feminisms
621S. Critical Studies in New Media

**Music**
249. Hollywood Film Music

**Political Science**
501S. Politics and Media in the United States

**Public Policy Studies**
367S. News Writing and Reporting
376S. Telecommunications Policy and Regulation
397S. American Communities: A Photographic Approach
398S. Advanced Documentary Photography

**Religion**
268. Religion and Film

**Russian**
223A. Contemporary Russian Media
382. Art and Dissidence: The Films of Tarkovsky, Kubrick, Kurosawa, and Lynch
782. Art and Dissidence: Films of Tarkovsky, Kubrick, Kurosawa, and Lynch

**Sociology**
160. Advertising and Society: Global Perspective
160D. Advertising and Society: Global Perspective

**Theater Studies**
255S. Directing
280S. Dramatic Writing
372. Existentialist Cinema
480S. Advanced Dramatic Writing

**Visual Arts**
217S. American Communities: A Photographic Approach
219S. Photography
222S. Intermediate Digital Photography
415S. Advanced Documentary Photography

**Visual and Media Studies**
130. Anthropology and Film
170. Advertising and Society: Global Perspective
180. Introduction to Cultural Studies
225S. American Communities: A Photographic Approach
228. Film and the African Diaspora
269. Documentary Photography and Film of the Nuclear Age
280. German Film
283. Existentialist Cinema
297. International Popular Culture
303. History of Photography, 1839 to the Present
307S. News Writing and Reporting
320A. Contemporary Russian Media
322. Art and Dissidence: The Films of Tarkovsky, Kubrick, Kurosawa, and Lynch
415S. Advanced Documentary Photography
561S. Critical Studies in New Media

**Women’s Studies**
512S. Film Feminisms

**SPECIAL TOPICS COURSES OFFERED PERIODICALLY**

**History**
104. Latin America through Film

**Literature**

**Portuguese**
200S. Seminar in Portuguese Literature: Literatura e Cinema Os Classicos Brasileiros

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*160 Courses and Academic Programs*
Asian and Middle Eastern Studies (AMES)

Associate Professor Ching, Chair; Associate Professor Rojas, Director of Undergraduate Studies; Professors Cooke and Liu; Associate Professors Ching, Hong, and Rojas; Assistant Professors Ginsburg, Hwansoo Kim, Kwon, McLarney; Professors of the Practice Hae-Young Kim; Associate Professors of the Practice Endo, Khanna, and Lee; Assistant Professor of the Practice Lo; Lecturers Cai, Kurokawa, Plesser and Vaishnava; Instructors Habib, Houssami, Hsieh, E. Kim, Naeymi-Rad, Saito, and Wang; Secondary Appointments: Professors Concesion (Theater Studies) and Goldman (Religion); Assistant Professor Göknar (Slavic and Eurasian Studies)

A major and minor is available in this program.

Asian and Middle Eastern Studies provides instruction in several languages and literatures of Asia and the Middle East. Languages offered are Arabic, Chinese, Hebrew, Hindi, Japanese, Korean, Sanskrit and Persian. The program offers Arabic, Chinese, Hebrew, Hindi, Japanese, and Korean literature courses, many in translation.

ASIAN AND MIDDLE EASTERN STUDIES (AMES)

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.


107S. Gateway Seminar: Cultural Exchange in Continental Asia. CCI, CZ, R One course. C-L: see History 153S; also C-L: Slavic and Eurasian Studies 106S

109. War, Gender, and Postcoloniality. ALP, CCI, EI Covers selected wars in the twentieth century by examining the intersections between the experience of war and the ways in which men and women represent themselves. Focus on World Wars I and II, Vietnam, the Algerian Revolution, the Lebanese Civil War, and the Gulf War. Instructor: Cooke. One course. C-L: Islamic Studies

143FS. Modern Jewish Identity between Death and Mourning. ALP, CCI, CZ, EI Representations of Death and Dying in modern Jewish literature, cinema, philosophy, anthropology and sociology. Traces the place of religious rites of mourning in secular Jewish culture. Explores the role played by religion in shaping the modern, so-called "secular" Jewish experience. Instructor: Ginsburg. One course.

145. Introduction to Israeli Culture. ALP, CCI, CZ The examination of contemporary Israeli culture through art, film, architecture, and literature. Concentration on interdisciplinary critical approaches to culture; interconnections of culture and Zionist ideology in the Israeli projection of the nation. Instructor: Ginsburg. One course. C-L: Jewish Studies 185, Religion 185

154. History and Practice of the Dance and Dance-theatre of India. ALP, CCI, CZ One course. C-L: see Dance 355; also C-L: Religion 243, Theater Studies 234

176S. Religion and Culture in Korea. CCI, CZ, EI Introduction to Shamanism, Buddhism, Confucianism, Daoism, Christianity, and new religions in Korea from ancient times to the present. Examination of religious traditions in close relationships with social, economic, political, and cultural environments in Korean society. Examination of religious tensions, philosophical arguments, and ethical issues that indigenous and foreign

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religions in Korea have engaged throughout history to maximize their influence in Korean society. Instructor: Kim. One course. C-L: Religion 211S


183FS. The Palestinian-Israeli Conflict in Literature and Film. ALP, CCI, CZ, EI A cultural study of the collapse of the Israeli-Palestinian peace process and failure of Israeli and Palestinian doves to transform their respective communities and to change conditions on the ground. Focus on self-criticism as manifested in Israeli and Palestinian literature and cinema and on its limits. Open only to students in the Focus Program. Instructor: Ginsburg. One course. C-L: Jewish Studies 183FS, Islamic Studies

187S. Gateway Seminar: Civil Rights and Asian Americans. CCI, CZ, EI, R, SS One course. C-L: see History 183S; also C-L: African and African American Studies 133S

190A. Duke-Administered Study Abroad: Special Topics in Asian and Middle Eastern Studies. Topics vary each semester. Instructor: Staff. One course.


205. Understanding the Middle East. CCI, SS Introduction to central political, geopolitical, cultural, and socio-economic issues in the Middle East, offering a better understanding of new ideological, political, and cultural phenomena. Includes movies and guest speakers. Students will conduct interviews to broaden their worldview. Introduction to different variables that affect our understanding of the socio-political life of this volatile region. Instructor: Jawad Al Mamouri. One course.

207. Modern East Asia, 1600-2000. CCI, CZ, SS One course. C-L: see History 229

209. Critical Inter-Asia: Rethinking Local and Global Connections. ALP, CCI, CZ Reconsidering the nexus of cultures and societies in Asia. Critical, transnational and interdisciplinary perspectives on two or more Asian cultures and their interactions in the world. Variable concerns and texts from history, literature, current affairs, cinematic, visual, and pop-cultures. Topics framed in local, regional, and global contexts. Instructor: Kwon. One course. C-L: International Comparative Studies 321, International Comparative Studies


214. Music in East Asia. ALP, CCI, CZ East Asian musicians and their instruments, genres, performance traditions, and contexts. Study of the relationship of music to social, religious, historical, and philosophical trends informed by listening to the musical forms themselves in recorded and live performances. Instructor: Kramer. One course. C-L: Music 234, Religion 245

215S. The Middle East in Popular Culture. CCI, CZ, SS One course. C-L: see Cultural Anthropology 417S; also C-L: Islamic Studies

220S. Al-Qaeda's Terrorism: Roots, Responses, and Ramifications. CCI, CZ, EI, SS, W Focus on Al-Qaeda, its roots, ideology, and its terrorism. Examination of Al-Qaeda's ideology, political culture, and development by exploring the origins and the narrative discourse of modern Islamic organizations dating back to the Salfi Movement of the nineteenth century. Presentation of the patterns and ramifications of Al-Qaeda's terrorist activities. Use critical thinking in order to differentiate Muslim proper narrative discourse from that of Al-Qaeda and its affiliated groups. Instructor: Lo. One course. C-L: Islamic Studies
221. Arab Society and Culture in Film. ALP, CCI, CZ, EI Examination of Arab worldviews (including cultural variations, artistic expressions, view about gender, and religion, and perspectives toward the U.S.). Explores the development of images of the Arab and seeks to understand them in the context of the Arab world as well as in its relationship to the West. Analyzes the dynamics between norms of modern civil society and those dictated by religious traditions. Critically examines current Western assumptions, representations and understanding of Arab societies, and the moral frameworks in which different choices are debated in the Arab context. Instructor: Lo. One course. C-L: Islamic Studies

222S. Syrian and Iraqi Cultures and Revolutions. ALP, CCI, CZ A cultural examination of Syrian and Iraqi revolutions in the post-independence period. Through fiction and films and an international conference, students will be exposed to the dynamics of the 2011 Arab Spring. One course. C-L: Islamic Studies

225. Egypt: Mother of the World. ALP, CCI, CZ Modern history of Egypt: Napoleon's conquest in 1798, the "Description of Egypt", Orientalist knowledge, the Ottoman Empire, Muhammad Ali, Islamic Reform, the Arab Renaissance, Women's Awakening, the Islamic Revival, Muslim Brotherhood, Arab Nationalism, Gamal Abd al-Nasser, war and peace with Israel, the culture of the petroleum industry, Egyptian cosmopolitanism, Egyptian letters (novel, drama, poetry), Egyptian cinema, mass media, television, and popular culture. Includes an optional voyage to Egypt during the spring vacation. Instructor: McLarney. One course. C-L: International Comparative Studies, Islamic Studies

225FS. Islamic Awakening: Revival and Reform. CCI, CZ Explores religious revival in the Islamic world: revival as reinterpretation of sacred texts, revival as revolution, revival as social movement, revival as spiritual awakening, revival as political mobilization. Focuses on Wahabism, Salafism, the renaissance/enlightenment of the late 19th century, ijtihad and jihad, grassroots movements, the Muslim Brotherhood, Hassan al-Banna, Sayyid Qutb, the awakening (sahwa/yaqza) of the 1970s and 1980s, the Iranian revolution, Khomeini, Ali Shariati, feminist theologies in Islam, and the role of the media in circulating religion. Instructor: McLarney. One course. C-L: Religion 372FS

227. The Modern Middle East. CCI, CZ One course. C-L: see History 214; also C-L: Jewish Studies 258, International Comparative Studies, Islamic Studies, International Comparative Studies

232S. Chinese Literature and Culture in Translation. ALP, CCI, CZ The transmutation of Chinese culture and literature from the perspective of translation conceived as a broad range of literary and cultural activities, including transactions between cultures, appropriation of a foreign work into a Chinese version, and adaptation of one literary-cultural form into another (such as literature into drama or film). Instructor: Hong. One course. C-L: Literature 248S

233. Global Chinese Cities through Literature and Film. ALP, CCI, CZ Modern Chinese cities in and beyond China, particularly as represented in literature and film. Considers city as object of cultural representation, as well as an engine of cultural production. Examines themes of modernization, alienation, nostalgia, migration, labor, and commoditization, and rethinks the very notion of "Chineseness" within an increasingly globalized world. Featured cities include Beijing, Shanghai, Hong Kong, Taipei, and New York. Instructor: Rojas. One course. C-L: Visual and Media Studies 237, International Comparative Studies 302, Arts of the Moving Image 269, International Comparative Studies

237. China and the United States. CCI, CZ, EI One course. C-L: see History 221; also C-L: International Comparative Studies 221, Marxism and Society

243. Jerusalem: Past and Present. ALP, CCI, CZ, EI Examines relations between the physical and spiritual spaces that make up Jerusalem. Explores the topography, demography, infrastructure, history, and cultures of the city. Focuses on the interaction and conflicts between ethnicities, religions, cultures and political entities. Studies divergent discourses about the city and examines the relationship between these discourses and the materiality of the city. Instructor: Ginsburg. One course. C-L: Jewish Studies 230, Religion 230, Islamic Studies


255. Introduction to the Civilizations of Southern Asia. CCI, CZ The literary, historic, linguistic, and ethnic diversity of South Asia presented through both readings and contemporary films. Not open to students who have taken Religion 160. Instructor: Staff. One course. C-L: History 217, Religion 227, International Comparative Studies

259. Culture and Politics of South Asia. CCI, CZ, SS One course. C-L: see Cultural Anthropology 245


267. Ancient and Early Modern Japan. CCI, CZ One course. C-L: see History 226; also C-L: International Comparative Studies

269. The Emergence of Modern Japan. CCI, CZ One course. C-L: see History 227

272. Korean Literature in Translation. ALP, CCI A chronological overview from earliest times until today. Begins with a brief introduction to Korean language and history as they relate to the study of literature. Novels, essays, classics, and various other genres. Instructor: Staff. One course. C-L: Literature 250, International Comparative Studies


283S. The City of Two Continents: Istanbul in Literature and Film. ALP, CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 307S; also C-L: Islamic Studies

291. Independent Study. Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. Half course.

301. Colonial Cinema and Post-Colonial Reflections. ALP, CCI, CZ Introduces cinemas in different colonial contexts, such as British in India, French in Africa, and Japanese in East Asia. Surveys colonial cinemas produced by the colonizer to legitimate colonial enterprises and their postcolonial counterparts. Examines the decolonial strategies registered in postcolonial cinemas as responses to, or "reflections" of, their colonial legacy. Maps the larger historical contexts of colonialism since the late 19th century and reflects on
the current transnational trend of globalization. Instructor: Hong, Kwon. One course. C-L: Literature 210, International Comparative Studies 301, Arts of the Moving Image 259

303A. Gender, Politics and Space in the Middle East. CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 343A; also C-L: Political Science 213A

305S. Travel, Gender, and Power. CCI, SS One course. C-L: see Cultural Anthropology 430S; also C-L: Women's Studies 430S, Islamic Studies

306. Mahayana Buddhism. CCI, CZ One course. C-L: see Religion 322

308S. Bilingualism. CCI, SS Examination of bilingualism at the individual, interpersonal, and social levels from psycholinguistic, socio-linguistic, anthropological, and educational perspectives. Issues to include the relation between language and cognition, language development, language identity, socio-linguistic practices in multicultural settings, language maintenance, and language policy and planning. Instructor: Hae-Young Kim. One course. C-L: Linguistics 308S

311S. Poetic Cinema. ALP, CCI, CZ Inquiry into sources of "resonance" in international cinema with emphasis on films from Asia and the Middle East. The object of the course is to attempt a description of aspects of film construction which conduce to intense experience for viewers. Readings in indigenous aesthetics. Instructor: Khanna. One course. C-L: Visual and Media Studies 354S, Arts of the Moving Image 266S, Arts of the Moving Image

319. Palestine, Israel, Arab-Israeli Conflict. CCI, EI, SS One course. C-L: see Cultural Anthropology 253; also C-L: Jewish Studies 283, Islamic Studies

322. Mystical Literature. ALP, CCI Explore & examine the tradition of mysticism in literature of the Arab/Muslim world and among British and American writers. Introduce students to numerous genres and literary works that manifest a deep religious attitude or experience as a way of life and cross-cultural phenomenon. Focus on selected works from Muslim writers, American & British writers as example of mystics- or Sufis outside the traditional Church. Reveal the recurrent theme of direct, intuitional experience of God through unifying love. Instructor: Jawad. One course. C-L: Religion 263, Islamic Studies

323S. Gender Jihad: Muslim Women Writers. ALP, CCI Roles and representations of women in Muslim societies of Asia (including Indonesia, South Asia, and the Middle East) and Africa, as well as in Muslim minority societies (including Europe and the United States). Examination of ways writers and filmmakers project images of women in today's Muslim societies. Focus on women as producers of culture and as social critics. Instructor: Cooke. One course. C-L: Religion 263, Islamic Studies

325. Islamic Awakening: Revival and Reform. CCI, CZ Explores religious revival in the Islamic world: revival as reinterpretation of sacred texts, revival as revolution, revival as social movement, revival as spiritual awakening, revival as political mobilization. Focuses on Wahabism, Salafism, the renaissance/enlightenment of the late 19th century, jihād and hijād, grassroots movements, the Muslim Brotherhood, Hassan al-Banna, Sayyid Qutb, the awakening (sahwa/yaqza) of the 1970s and 1980s, the Iranian revolution, Khomeini, Ali Shariati, feminist theologies in Islam, and the role of the media in circulating religion. Instructor: McLarney. One course. C-L: Religion 372, Islamic Studies, Policy Journalism and Media

326A. Religion and Civil Society in the Arab World. CCI, CZ, EI Examine how the Arab world is embodied in the global or world system of the 21st century. Learn the specific accents that inform its citizens and shape its prospects locally, regionally and internationally. Examine how the major Abrahamic traditions - Judaism, Christianity and Islam - had their historical origins in the eastern Mediterranean world, and how they continue to have adherents that populate the region and challenge the modern notion of citizenship. Explore how the current uprising reflects the challenges of reconciling local aspirations with global forces. STUDY ABROAD: Duke in the Arab World Summer 2012. One course. C-L: Religion 371A

333. Traffic in Women: Cultural Perspectives on Prostitution in Modern China. ALP, CCI, SS Dialectic of prostitution as lived experience, and as socio-cultural metaphor. Focus on literary and cinematic texts, together with relevant theoretical works. The figure of the prostitute will be used to interrogate assumptions
about gender identity, commodity value, and national discourse. Transnational traffic in women will provide context for examination of discourses of national identity in China and beyond, together with the fissures at the heart of those same discourses. Instructor: Rojas. One course. C-L: Cultural Anthropology 334, Women's Studies 233, Study of Sexualities 233, Arts of the Moving Image 270

335. Chinatowns: A Cultural History. ALP, CCI, CZ, R Explores the intersection of space and ethnicity through the myriad ways Chinatown has circulated as memory, fantasy, narrative, myth, in the dominant cultural imagination, and how lived realities of overseas Chinese communities, Asian American history, and changing conceptions of "Chineseness" have productively engaged with real and phantom Chinatowns. Research will emphasize multi-disciplinary approaches, such as urban history, architecture, ethnography, economics; or engagement in a creative project. Instructor: Chow. One course. C-L: History 228

337. China from Antiquity to 1400. CCI, CZ One course. C-L: see History 220

339. Introduction to Islamic Communities in North Carolina. CCI, CZ, SS The diverse locales, practices, and ethnicities. Topics include: basic tenets of Islam, Islam in America, African American Islam, mosque and school, interfaith and pluralism, and Islamic feminism. Includes field trips and group projects in the local community. Instructor: McLarney. One course. C-L: Religion 386, Islamic Studies

341. Screening the Holocaust: Jews, WWII, and World Cinema. ALP, CCI, CZ, EI Surveys representations of the Jewish Holocaust in World Cinema Explores different filmic strategies employed to represent what is commonly deemed as "beyond representation" Examines the heated debate spurred by a number of Holocaust films. Asks whether anything is permissible in representing such an event: Is there an appropriate way, in contradiction to inappropriate way, to represent the Jewish Holocaust? Instructor: Ginsburg. One course. C-L: Arts of the Moving Image 263, Jewish Studies 266

343. Representing the Holocaust. ALP, CCI, CZ Issues of representing the Holocaust in Israel through various cultural media, such as literature, film, criticism, historiography, legal documents, and music. The limits of representation: the historical and ideological deployment of Holocaust representation in different cultural contexts. Instructor: Ginsburg. One course. C-L: Religion 267, Jewish Studies 267

345. Representing the Middle East. CCI, CZ, SS One course. C-L: see Cultural Anthropology 251; also C-L: History 213, Turkish 372, International Comparative Studies 362, Visual and Media Studies 250, Islamic Studies, Policy Journalism and Media Studies

350S. Zionism: Jewish and Christian Aspects. CCI, CZ, EI, SS One course. C-L: see Religion 350S; also C-L: Jewish Studies 350S

355. Contemporary Culture in South Asia. ALP, CCI, CZ Integrates literature, film, anthropology, and history to explore themes and questions about modern South Asia and the realities of its peoples. Focus on contemporary academic and socio-cultural debates. Instructor: Staff. One course. C-L: International Comparative Studies, Documentary Studies


365S. The World of Japanese Pop Culture. ALP, CCI, CZ An examination of modern Japanese culture through a variety of media including literary texts, cultural representations, and films. Different material each year. Instructor: Ching. One course. C-L: Cultural Anthropology 365S

376S. Modern Korean Buddhism in the Global Context. ALP, CCI, CZ, EI History, thought and practice of Buddhism in Korea from nineteenth century to present. Topics include colonial Buddhism; relationship with Christianity and Japanese Buddhism; reform movements; post-colonial factionalism; North Korea; critical role of nuns; response to Westernization of society; temples in America. Attention to influence of religious persecution, colonialism, modernity, nationalism, democracy, and globalization on Buddhist reformers, institutions, practices, and rituals. Readings drawn largely from primary sources (in translation), supplemented
by secondary works. No prior knowledge of Korean language/culture/Buddhism required. Instructor: Hwansoo Kim. One course. C-L: Religion 325S

378S. Korean Sociolinguistics. CCI, CZ, SS Examination of Korean language in social and cultural contexts from sociolinguistic and linguistic anthropological points of view. Focus on construction of cultural identities, social order and interpersonal relationships through everyday language use. Honorifics and language ideology, language and gender, regional and social variations, language contact and language policy in contemporary Korea. Sociolinguistics literature introducing conceptual frameworks and empirical research on specifics of language in use and synchronic and diachronic variations. Readings and class conducted in English. Prerequisite: Familiarity with Korean or basics of Linguistics. Instructor: Hae-Young Kim. One course. C-L: Linguistics 306S

382. Orhan Pamuk and World Literature. ALP, CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 345; also C-L: International Comparative Studies, Islamic Studies

386S. Tibetan Buddhism: Culture, Ethics, Philosophy and Practice. CCI, CZ, EI, W One course. C-L: see Religion 327S

389A. Between Europe and Asia: The Geopolitics of Istanbul From Occupation To Globalization. CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 342A

390. Special Topics. Topics vary each semester. Instructor: Staff. One course.


390S. Special Topics. Seminar version of Asian and Middle Eastern Studies 390. Topics vary each semester. Instructor: Staff. One course.


391. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

403. The Palestinian-Israeli Conflict in Literature and Film. ALP, CCI, CZ, EI A cultural study of the collapse of the Israeli-Palestinian peace process and failure of Israeli and Palestinian doves to transform their respective communities and to change conditions on the ground. Focus on self-criticism as manifested in Israeli and Palestinian literature and cinema and on its limits. Instructor: Cooke and Ginsburg. One course. C-L: Jewish Studies 483, International Comparative Studies

409. Chinese Im/migration: Chinese Migrant Labor and Immigration to the US. ALP, CCI, EI, SS Comparative examination of contemporary China's "floating population" of migrant labor, and of Chinese immigration abroad (particularly to the US). Focus on cultural representation of these phenomena (particularly literary, cinematic, and artistic works), but sociological, anthropological, economic, and political perspectives will also be considered. Topics include cultural alienation, marginalization, and assimilation; education and health care; labor and commodification; gender and ethnicity; narratives of modernization and development; together with the ethical, social, and political implications of migration. Instructor: Rojas. One course. C-L: International Comparative Studies 434, Arts of the Moving Image 268


410. Trauma and Space in Asia. ALP, CCI, CZ Space and Trauma across Asia. Introduces theoretical framework of "trauma discourse;" examines how the experience of space in Asia broadly defined has shaped historical traumas, which have marked the transition from colonialism to postcolonialism. Focus on Israel/
Palestine, India/Pakistan, China/Taiwan, Japan/Korea; examine how critical terms originating in one historico-geographical context are translated across geographical boundaries. Instructor: Kwon, Ginsburg.
One course. C-L: Cultural Anthropology 366


422S. Arab Women Writers. ALP, CCI, CZ The emergence of women writers in the Arab world from nineteenth century poets to 21st century bloggers. Novels, short stories, autobiographies and poetry dealing with Arab women's rights in the home and in politics, war, colonialism, religion and sexuality. Writers include Syrian Idilbi and Samman, Egyptian El Saadawi and Bakr, Lebanese al-Shaykh, Palestinian Khalifa, Iraqi Riverbend, Algerian Djebar. Instructor: Cooke. One course. C-L: Islamic Studies


431. Modern Chinese Cinema. ALP, CCI, CZ Films, documentaries, television series, and soap operas produced in Mainland China in the post-Mao era, modern and contemporary Taiwan, and Hong Kong. Topics include the history and aesthetics of the new wave cinema, soap operas as the new forum for public debate on popular culture, and debate over the relationship between Euro-American modernist and the national cinema. C-L Film Video. Instructor: Hong. One course. C-L: Literature 214, Arts of the Moving Image 250, Visual and Media Studies 235

432S. Literati/Literature Culture: Pre Modern Chinese Literature. ALP, CCI Survey of works in Chinese from Confucius to the Qing Dynasty including short stories, novels, autobiographical writings, and poetry. Topics include the role of the educated elite in relation to literature and culture and how the literati portray themselves in their works. Relations between orthodoxy and marginalization of the literati and its impact on their writing. One course.

471. World of Korean Cinema. ALP, CCI, CZ, EI The world of Korean cinema, broadly defined in terms of national, generic, theoretical boundaries, beyond conventional auteur, genre, one-way influence, and national cinema theories. Cinematic texts examined in local, regional, and global contexts and intersections, in conversation with global theories and histories of cinema, visual cultures, and other representational forms. Variable topics informed theoretically and politically by discourses on gender/sexuality, race/ethnicity, global flows of people and cultures, popular and "high" culture crossovers, transnational co-productions, remakes, translations and retellings. No knowledge of Korean language/ culture presumed. Instructor: Kwon. One course. C-L: Literature 212, Arts of the Moving Image 256, Visual and Media Studies 234

473. Trauma and Passion in Korean Culture. ALP, CCI Representations of passion and trauma in Korean society and history through various cultural media including literature, historical texts, autobiographies, film, and other visual media. In dealing with historical traumas such as the Korean War, Japanese colonization, Western imperialism and political upheavals, sub-topics to include war, love, melodrama, nationalism, ideological strife and longing and loss. Instructor: Kwon. One course.
475S. North Korea: Politics, Economics and Culture. CCI, CZ, EI, SS Critical examination of the political and economic with social, cultural, and religious dimensions of North Korea. Topics includes North Korea's leadership, religious (especially cultic) aspects of the North Korean Juche ideology, the daily lives of its citizens, the Korean War, nuclear development and missiles, North Korean defectors and refugees in other Asian countries, human rights, international relationships, and unification. Instructor: Hwansoo Kim. One course.

482. Arabian Nights in the West. ALP, CCI Examines one of the most popular works of world literature, The Thousand and One Nights. Considers elements of fairy tales, romances, fables, legends, parables, and adventures. Comparison of narrative techniques used in Boccaccio's The Decameron and Chaucer's Canterbury Tales. Comparative analysis of the structure of the story. Instructor: Jawad Al Mamouri. One course.

485S. Global Tibet. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 431S

490S. Special Topics. Seminar version of Asian and Middle Eastern Studies 390. One course.

493. Research Independent Study. R Individual Research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

494. Research Independent Study on Contemporary China. FL, R Research and field studies culminating in a paper approved and supervised by the resident director. Includes field trips on cultural and societal changes in contemporary China. Offered at the Duke in China Program. Instructor: Staff. One course.

495S. Senior Honors Thesis Seminar. R, W Required for AMES seniors completing an honors thesis. Course will guide students through the writing of the thesis, the preliminary research for which will have been completed in the Fall. Students will share and critically evaluate portions of each other's projects. Consent of instructor required. Instructor: Staff. One course.

502S. Translation Studies and Workshop. ALP, CCI, CZ, W One course. C-L: see Theater Studies 530S; also C-L: Romance Studies 520S

503. Asian & Middle Eastern Studies. Graduate credit for undergraduate course in AMES. Consent of the instructor and the director of undergraduate studies required. Instructor: Staff. One course.

505S. Seminar in Asian and Middle Eastern Cultural Studies. CZ Concentration on a theoretical problem or set of issues germane to the study of Asian and Middle Eastern cultures. One course. C-L: African and African American Studies 540S, Literature 530S

511. Documentary and East Asian Cultures. ALP, CCI, CZ, EI Focus on documentary films from various regions in East Asia, including China, Taiwan, Korea and Japan, studying the specific historical and social context of each while attending to their interconnected histories and cultures. Emphasis on the ethical implications of documentary in terms of its deployment of visual-audio apparatus to represent different groups of people and beliefs, values and conflicts, both intra- and inter-regionally in East Asia. Special attention paid to the aesthetics and politics of the documentary form in terms of both its production of meanings and contexts of reception. Instructor: Hong. One course. C-L: Arts of the Moving Image 641, Documentary Studies 511

529S. Gender Jihad: Muslim Women Writers. ALP, CCI Roles and representations of women in Muslim societies of Asia (including Indonesia, South Asia, and the Middle East) and Africa, as well as in Muslim minority societies (including Europe and the United States). Examination of ways writers and filmmakers project images of women in today's Muslim societies. Focus on women as producers of culture and as social critics. Same as AMES 173S but requires extra assignments. Staff: Cooke. One course.

535S. Chinese Media and Pop Culture. ALP, CCI, R Current issues of contemporary Chinese media and popular culture within the context of globalization. Cultural politics, ideological discourse, and intellectual debates since gaiqie kaifang (reform and opening up); aspects of Chinese media and popular culture: cinema, television, newspapers and magazines, the Internet, popular music, comics, cell phone text messages, and

565. The World of Japanese Pop Culture. ALP, CCI, CZ, R An examination of modern Japanese culture through a variety of media including literary texts, cultural representations, and films. Different material each year; may be repeated for credit. (Same as Asian and Middle Eastern Studies 365 but requires extra assignments.) Instructor: Ching. One course. C-L: Cultural Anthropology 565, International Comparative Studies

590. Special Topics in Asian and Middle Eastern Studies. ALP, R Topics vary each semester. Instructor: Staff. One course.

593. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor required. Instructor: Staff. One course.

603. The Palestinian-Israeli Conflict in Literature and Film. A cultural study of the collapse of the Israeli-Palestinian peace process and failure of Israeli and Palestinian doves to transform their respective communities and to change conditions on the ground. Focus on self-criticism as manifested in Israeli and Palestinian literature and cinema and on its limits. Instructor: Staff. One course. C-L: Jewish Studies 683

605. East Asian Cultural Studies. ALP, CCI, CZ, R East Asia as a historical and geographical category of knowledge emerging within the various processes of global movements (imperialism, colonialism, economic regionalism). (Same as Asian and Middle Eastern Studies 153 but requires extra assignments.) Instructor: Ching. One course. C-L: Cultural Anthropology 605, Literature 571, International Comparative Studies

611. Melodrama East and West. Melodrama as a genre in literature and as a mode of representation in film and other media. Issues include: gender construction, class formation, racial recognition, and national identity-building. Emphasis on comparative method attending American and Chinese cultures and the politics of cross-cultural representation. (Same as Asian and Middle Eastern Studies 411 but requires extra assignments.) Instructor: Hong. One course.

620S. Critical Genealogies of the Middle East: An examination of the canon of Middle East scholarship. CCI, CZ, SS This course provides an in-depth investigation into the various theoretical and textual traditions that inform interdisciplinary Middle East studies with a focus on History, Cultural Studies, Religion and Social Sciences. Interdisciplinary in scope, the course will maintain a disciplinary rigor so that students learn how knowledge is produced within the framework of specific disciplines. Foci include social history, literary theory, critical visual studies, and postcolonial theory. Staff: Cooke. One course.

625. Islamic Awakening: Revival and Reform. Explores religious revival in the Islamic world: revival as reinterpretation of sacred texts, revival as revolution, revival as social movement, revival as spiritual awakening, revival as political mobilization, revival as cultural renaissance. Graduate students will pursue in depth research in their specific area of concentration, read selected sources in the original languages, and design a final project that furthers their course of study. Instructor: McLarney. One course. C-L: Islamic Studies

629S. Muslim Networks Across Time and Space. CCI, CZ, EI Muslim networks are at once an historical and a contemporary phenomenon. Networks for the exchange of material goods, people and cultural practices define Islamic civilization, and now the Internet provides a new network of communication in cyberspace. This course will explore various hermeneutical strategies for understanding both Muslim cyberspats and their role in the future of Muslim communities from America to Asia. Instructor: Cooke, Lawrence. One course. C-L: Religion 662S, Islamic Studies

631. Seminar on Chinese Cinema. CZ, R Films, documentaries, television series, and soap operas produced in mainland China in the post-Mao era. Topics include the history and aesthetics of the cinema, soap operas as the new forum for public debates on popular culture, the emerging film criticism in China, the relationship of politics and form in postrevolutionary aesthetics. (Same as Chinese 188S but requires extra assignments.)
Research paper required. Prerequisite: Chinese 436S or advanced oral and written proficiency in Mandarin Chinese. Instructor: Staff. One course. C-L: International Comparative Studies

631S. Seminar on Modern Chinese Cinema. CZ, R Films, documentaries, television series, and soap operas produced in mainland China in the post-Mao era. Topics include the history and aesthetics of the cinema, soap operas as the new forum for public debates on popular culture, the emerging film criticism in China, the relationship of politics and form in postrevolutionary aesthetics. (Same as Chinese 188S but requires extra assignments.) Research paper required. Prerequisite: Chinese 436S or advanced oral and written proficiency in Mandarin Chinese. Instructor: Staff. One course. C-L: International Comparative Studies

632S. Literati/Literature Culture: Pre Modern Chinese Literature. ALP, CCI, R Survey of works in Chinese from Confucius to the Qing Dynasty including short stories, novels, autobiographical writings, and poetry. Topics include the role of the educated elite in relation to literature and culture and how the literati portray themselves in their works. Relations between orthodoxy and marginalization of the literati and its impact on their writing. (Same as Asian and Middle Eastern Studies 432S but requires extra assignments.) Instructor: Staff. One course.

661. Japanese Cinema. ALP, CCI, CZ An introduction to the history of Japanese cinema focusing on issues including the relation between the tradition-modernity or Japan-West in the development of Japanese cinema, the influence of Japanese films on the theory and practice of cinema abroad, and the ways in which cinema has served as a reflection of and an active agent in the transformation of Japanese society. (Same as Asian and Middle Eastern Studies 461, but requires extra assignments.) Instructor: Chow. One course.

673. Trauma and Passion in Korean Culture. ALP, CCI Representations of passion and trauma in Korean society and history through various cultural media including literature, historical texts, autobiographies, film, and other visual media. In dealing with historical traumas such as the Korean War, Japanese colonization, Western imperialism and political upheavals, sub-topics to include war, love, melodrama, nationalism, ideological strife and longing and loss. (Same as Asian and Middle Eastern Studies 473 but requires extra assignments.) Instructor: Kwon. One course.

682. Arabian Nights in the West. ALP, CCI Graduate version of Asian and Middle Eastern Studies 482. Examines one of the most popular works of world literature, The Thousand and One Nights. Considers elements of fairy tales, romances, fables, legends, parables, and adventures. Comparison of narrative techniques used in Boccaccio's The Decameron and Chaucer's Canterbury Tales. Comparative analysis of the structure of the story. Students in this graduate section will have a supplementary reading list, additional assignments, and meet regularly with the professor outside regular class time. Instructor consent required. Instructor: Jawad Al Mamouri. One course.

690S. Special Topics in Asian and Middle Eastern Studies. ALP, CCI Seminar version of Asian and Middle Eastern Studies 590. Topics vary each semester. One course.

ARABIC (ARABIC)


102. Elementary Arabic. FL Continuation of Arabic 101. Prerequisite: Arabic 101 or equivalent. Instructor: Lo. One course.

131. Conversational Egyptian and Contemporary Culture. FL Designed to develop proficiency in conversational Egyptian Arabic within a cultural context: manners, social interaction, customs, and holiday traditions. Consent required if student has not taken any Arabic previously. Instructor: Staff. One course.

203. Intermediate Arabic. CZ, FL Reading, composition, and conversation in modern standard Arabic. Readings include selections from the Qur'an, contemporary literature, and the Arabic press. Prerequisite: Arabic 102 or equivalent. Instructor: Habib. One course.
204. **Intermediate Arabic. CZ, FL** Continuation of Arabic 203. Prerequisite: Arabic 203 or equivalent. Instructor: Habib. One course.

205A. **Dardasha Masriyyah: Egyptian Dialect. CZ, FL** Intermediate level foundation in the structure, pronunciation, vocabulary, culture of Egyptian Arabic. Focus on communicative skills of listening and speaking of Egyptian dialect of Arabic. Develop the automated production skills necessary to function in an Arabic speaking environment of Egyptian culture. Understand Egyptian culture as reflected in popular imagery & films. Visit cultural sites & icons for historical awareness. Offered only in the Duke in the Arab World Study Abroad Program. Pre-req: Arabic 2 or equivalent. Instructor: Habib. One course.

305. **Advanced Arabic. ALP, CCI, FL** Readings in classical and contemporary fiction and nonfiction. Works include al-Jahiz, Ibn Arabi, Taha Husain, Ibn Battuta, Ghada al-Samman and 1001 Nights. Prerequisite: Arabic 204 or equivalent. Instructor: Staff. One course. C-L: International Comparative Studies

306. **Advanced Arabic. ALP, FL** Continuation of Arabic 305. Prerequisite: Arabic 305 or equivalent. Instructor: Staff. One course.

391. **Independent Study.** Individual study of language for conducting research involving sources written or spoken in the language. Students have to submit a proposal describing the purported research, types of sources to be analyzed, and kinds of language knowledge or skills they need to be equipped with. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

407. **Issues in Arabic Language and Society I. ALP, CCI, FL** Readings and other material, including films, television, and radio broadcasts. Exercises in composition. Prerequisite: Arabic 306 or consent of instructor. Instructor: Cooke. One course. C-L: International Comparative Studies

408. **Issues in Arabic Language and Society II. ALP, FL** Continuation of Arabic 407. Prerequisite: Arabic 306 or consent of instructor. Instructor: Cooke. One course. C-L: International Comparative Studies

481. **Media Arabic. CZ, FL** Expose students to a wide variety of media Arabic taken from written news sources and TV and Internet programs. help develop skills in speaking, writing, reading, and listening comprehension beyond the intermediate high level. Expose students to media materials and programs from al-Jazeera. Teach students to hold informed discussions and write simple analyses and reports of current events and debates. Help students read articles from a selection of newspapers, magazines and websites from around the Arab world with focus on specialized vocabulary of media Arabic. Instructor: Habib. One course.

501S. **Translation as a Research Tool in Arabic and Islamic Studies. ALP, CCI, CZ, FL** Introduces advanced students of Arabic to the science of translation as a major tool to pursue research in Arabic and Islamic studies. Learn techniques of translating Arabic text, editing, accessing biographical translation. Teach students how to translate literary text, religious text etc. (Qur’an, Hadith, poetry, etc.) Instructor: Jaward. One course. C-L: Islamic Studies

502S. **Classical Arabic Texts. ALP, CCI, CZ** Readings of Classical Arabic texts to include pre-Islamic poetry, philosophy, historiography, tafsirs, adaption. Instructor: Habib. One course. C-L: Islamic Studies

**CHINESE (CHINESE)**

101. **Elementary Chinese. FL** Introduction to speaking, understanding, reading, and writing modern standard Chinese (Mandarin, or putonghua, based on the Beijing dialect). Instructor: Lee. One course.

102. **Elementary Chinese. FL** Continuation of Chinese 101. Prerequisite: Chinese 101 or equivalent. Instructor: Lee. One course.

131. **Literacy in Chinese I. FL** Designed for students who were raised in a Chinese-speaking environment and who can converse about personal information or daily topics but have little or no reading and writing skills in Mandarin Chinese. Gain knowledge of the etymologies of Chinese characters and writing system. Substantial work on the development of reading and writing competencies in Chinese while continuing to improve aural understanding and speaking competency. Topics focus on issues concerning the aspects of
bilingual and bicultural experiences specifically addressed for Chinese heritage learners. Instructor: Yao. One course.


204. Intermediate Chinese. FL Continuation of Chinese 203. Prerequisite: Chinese 203. Not open to students who have completed Chinese 232 or 242. Instructor: Cai. One course.


232. Literacy in Chinese II. FL Continuation of Chinese 131. Further development of reading and writing fluency and competencies through studying a range of topics consisting of more complex vocabulary and grammatical structures. Content covering necessary understanding of language and cultural heritage concerning Chinese customs, civilization, and history. Prerequisite: Chinese 131 or equivalent. Instructor: Yao. One course.

242. Intensive Literacy in Chinese. Intensive Literacy in Chinese. Covers the curriculum of Chinese for advanced-beginners (Chinese 131 and 232) in one semester. Equal attention to listening, speaking, reading and writing skills. Introduction to various aspects of Chinese culture. Not open to students without previous exposure to Mandarin Chinese, or to students who can read and write more than 300 Chinese characters. Instructor: Staff. Two courses.

305. Advanced Chinese. CCI, FL Proficiency in speaking, aural comprehension, reading, and writing. Content drawn from newspaper articles, essays, and other readings concerning history, culture, and current political, social, and simple economic issues in China and Taiwan. Prerequisite: Chinese 204 or equivalent. Instructor: Yao. One course. C-L: International Comparative Studies

306. Advanced Chinese II. ALP, CCI, CZ, FL Continuation of Chinese 305. Designed for Chinese as a foreign/second language. Builds knowledge of more sophisticated linguistic forms and learning to differentiate between different types of written and spoken discourse. Development of writing skills in selected formats and genres while continuing to develop correct use of speech patterns and vocabulary and cross-cultural understanding. Content drawn from newspaper articles, essays, and other readings concerning social and cultural issues in contemporary Chinese society. Prerequisite: Chinese 305 or equivalent. Instructor: Yao. One course.


333. Advanced Literacy in Chinese. ALP, CCI, CZ, FL Continuation of Chinese 232, Literacy in Chinese. Designed for Chinese as a second language. Practice in formal and informal speech and discourse in speaking and writing. Content drawn from newspaper articles, essays, TV and radio broadcasts concerning social and cultural issues in contemporary China. Develops fluency and skills in writing expository essays and short stories (narrative) while continuing to advance understanding of heritage culture and aural/oral proficiency. Prerequisite: Chinese 232 or equivalent proficiency. Instructor: Staff. One course.

334. Issues in Modern Chinese. ALP, CCI, CZ, FL Further development of the elements practiced in Chinese 131-333. Designed for Chinese as a second language. Theme-based approach focusing on aspects of social/cultural phenomena and historical/political background of topics in contemporary China and Taiwan.
Guided writing practice and development of skills in reading authentic texts in both colloquial and literary Chinese. Prerequisite: Chinese 333 or equivalent. Instructor: Cai. One course.

**371S. Classical Chinese in the Modern Context I.** ALP, FL.
Introduction to Classical Chinese for the basic reader. Historical background of essential texts in the ancient period, covering classical literature, philosophy, and history. Focus on grammar, systematic sentence analysis, and distinctive functions of grammatical particles. A gateway to advanced literary reading and writing (shu-mian-yu). Enhancement of knowledge of classical literature, philosophy, and history. Consent of instructor required. Prerequisite: Chinese 333 or Chinese 407S. Instructor: Staff. One course.

**372S. Classical Chinese in the Modern Context II.** ALP, CZ, FL.
Continuation of Chinese 371S. Acquaintance with historical background of essential texts in the ancient period. Focus on grammar, systematic sentence analysis, and distinctive functions of grammatical particles. A gateway to advanced literary reading and writing (shu-mian-yu). Enhancement of knowledge of classical literature, philosophy, and history. One course.

**393. Independent Study.**
Individual study of language for conducting research involving sources written or spoken in the language. Students have to submit a proposal describing the purported research, types of sources to be analyzed, and kinds of language knowledge or skills they need to be equipped with. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

**407S. Issues in Chinese Language and Society I.** ALP, CCI, CZ, FL.
Materials from public media used to analyze diverse social phenomena and cultural issues in contemporary China. Major focus on developing literary reading and writing skills along with learning methods of writing academic Chinese essays on a wide range of complex topics. Topics include popular culture, food, marriage outlooks, Cultural Revolution, Confucianism, and social issues after the economic reform in China. Analysis of cultural and literary texts from variety of media and genres providing a basis for practice in discussion and writing. Instructors: Lee and staff. One course.

**408S. Issues in Chinese Language and Society II.** ALP, CCI, CZ, FL.

**427A. Intensive Advanced Chinese.** ALP, CCI, FL.
Study of diverse public media in which Mandarin Chinese is the principal language of communication. Includes interviews, methods of writing Chinese essays, and rhetorical analysis on a range of topics. Equivalent of fourth-year Chinese. Offered in the Duke Study in China Program at Capital Normal University. Consent of instructor required. Instructor: Staff. One course.

**428A. Intensive Advanced Chinese.** ALP, CCI, FL.

**435S. Themes in Modern Chinese I.** ALP, CCI, FL.
Readings and other material, including web sites, films, television, and radio broadcasts. Exercises in composition. Prerequisite: Chinese 305, 306, 127, 129, or consent of instructor. Instructor: Staff. One course. C-L: International Comparative Studies

**436S. Selected Readings in Contemporary Chinese Literature II.** ALP, CCI, FL.
Continuation of Selected Readings in Contemporary Chinese Literature I. Designed for advanced learners of Chinese as a second language. Further development of literary reading and writing skills on a range of formal topics. Advancing analytical competency in the language and cultural literacy. Content drawn from authentic materials and literary work by prominent writers in contemporary China. Instructor: Staff. One course.

**455. Contemporary Chinese Culture.** ALP, CCI, FL.
Elements of Contemporary Chinese Culture including media, popular culture, literature, and the arts. Prerequisite: Chinese language proficiency at the fourth year level or the equivalent. Instructor: Liu. One course.

**456. Aspects of Chinese Culture and Society.** ALP, CCI, CZ, FL.
Topics in Chinese culture and society including media, popular culture, literature, and the arts of China. Prerequisite: Chinese language proficiency at the fourth-year level or the equivalent. Instructor: Liu. One course.
473A. Current Issues in Modern Chinese I. CCI, CZ, FL Equivalent to fifth year. Discussion based on oral and written reports and topical readings. Offered in the Duke Study in China Program at Capital Normal University. Instructor: Staff. One course.


HEBREW (HEBREW)

102. Elementary Modern Hebrew. FL Continuation of Hebrew 101. Prerequisite: Hebrew 101 or equivalent. Instructor: Plesser. One course. C-L: Jewish Studies 102

171. Biblical Hebrew I. FL One course. C-L: see Religion 105; also C-L: Jewish Studies 105

172. Biblical Hebrew II. FL One course. C-L: see Religion 106; also C-L: Jewish Studies 106

203. Intermediate Modern Hebrew. ALP, FL Reading, composition, conversation, and language laboratory. Prerequisite: Hebrew 101, 102 or equivalent. Instructor: Plesser. One course. C-L: Jewish Studies 203

204. Intermediate Modern Hebrew. ALP, CZ, FL Continuation of Hebrew 203. Prerequisite: Hebrew 203 or equivalent. Instructor: Plesser. One course. C-L: Jewish Studies 204

305S. Advanced Modern Hebrew. ALP, CCI, FL Introduction to modern Hebrew literature and Israeli culture. Emphasis on critical reading of literary and cultural texts, including prose, poetry, drama, and film. Conducted in Hebrew. Consent of instructor required. Prerequisite: Hebrew 204 or equivalent. Instructor: Ginsburg. One course. C-L: Jewish Studies 305S, International Comparative Studies

306S. Advanced Modern Hebrew. ALP, CCI, FL Continuation of Hebrew 306S. Consent of instructor required. Prerequisite: Hebrew 306S or equivalent. Instructor: Ginsburg. One course. C-L: Jewish Studies 306S

391. Independent Study. Individual study of language for conducting research involving sources written or spoken in the language. Students have to submit a proposal describing the purported research, types of sources to be analyzed, and kinds of language knowledge or skills they need to be equipped with. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.


HINDI (HINDI)
101. Elementary Hindi. FL Conversation, basic grammar, and vocabulary; introduction to the Devanagari script and the reading of graded texts. Instructor: Vaishnava. One course.


123A. Intensive Elementary Hindi. FL Covers the basic elementary Hindi language curriculum (Hindi 1 and 2) in one semester. Conversation, basic grammar, and vocabulary; introduction to the Devangagari script, the reading of texts, and culture. Open only to students in the Duke INtense Global program in Hyderabad. Two courses. Instructor: Staff. Two courses.


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<tr>
<td>225A</td>
<td>Intensive Intermediate Hindi</td>
<td>Hindi 63 and 64 in one semester. Includes reading, composition, and conversation, as well as cultural components. Open only to students in the Duke INtense Global program in Hyderabad. Two courses.</td>
<td>Staff</td>
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<td>305</td>
<td>Advanced Hindi</td>
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<td>407S</td>
<td>Issues in Hindi Language and Society II</td>
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<td>101</td>
<td>Elementary Japanese</td>
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<tr>
<td>102</td>
<td>Elementary Japanese</td>
<td>Continuation of Japanese 101.</td>
<td>Endo</td>
<td>1</td>
</tr>
<tr>
<td>203</td>
<td>Intermediate Japanese</td>
<td>Continued development of the four language skills: listening, speaking, reading and writing. Cultural component emphasized through short readings.</td>
<td>Endo</td>
<td>1</td>
</tr>
<tr>
<td>204</td>
<td>Intermediate Japanese</td>
<td>Continuation of Japanese 203.</td>
<td>Endo</td>
<td>1</td>
</tr>
<tr>
<td>305</td>
<td>Advanced Japanese</td>
<td>Readings and other materials, including video. Exercises in composition and conversation.</td>
<td>Kurokawa</td>
<td>1</td>
</tr>
<tr>
<td>306</td>
<td>Advanced Japanese</td>
<td>Continuation of Japanese 305.</td>
<td>Kurokawa</td>
<td>1</td>
</tr>
<tr>
<td>391</td>
<td>Independent Study</td>
<td>Individual study of language for conducting research involving sources written or spoken in the language. Students have to submit a proposal describing the purported research, types of sources to be analyzed, and kinds of language knowledge or skills they need to be equipped with. Consent of instructor and director of undergraduate studies required.</td>
<td>Staff</td>
<td>1</td>
</tr>
<tr>
<td>408S</td>
<td>Issues in Japanese Language and Society II</td>
<td>Continuation of Japanese 407S.</td>
<td>Saito</td>
<td>1</td>
</tr>
<tr>
<td>471S</td>
<td>Classical Japanese</td>
<td>Topics vary each semester.</td>
<td>Staff</td>
<td>1</td>
</tr>
<tr>
<td>650</td>
<td>Research Methods in Japanese (B)</td>
<td>Introduction to various research approaches to literary, sociological, and historical studies of Japan. Emphasis on bibliographical sources that best serve needs in chosen area of specialization. Consent of instructor required.</td>
<td>Staff</td>
<td>1</td>
</tr>
</tbody>
</table>

176 Courses and Academic Programs
KOREAN (KOREAN)

101. Elementary Korean. FL Designed for true beginners with no prior knowledge of Korean, introduces the basics of Korean. The sounds of spoken Korean, the writing system Hangul, and greetings; basic communication, fundamentals of grammar, and elementary reading skills for simple sentences. Instructor: E. Kim. One course.

102. Elementary Korean. FL Continuation of Korean 101. Developing speaking and listening skills for everyday personal communication; reading simple narratives and descriptions; learning core grammatical patterns. Prerequisite: Korean 101 or equivalent (knowledge of Hangul and rudimentary speaking ability). Instructor: E. Kim. One course.

203. Intermediate Korean. FL Focus on developing reading skills for narrative and descriptive texts, and on writing. Practice in listening and speaking in social settings with peers and colleagues; development of complexity and sociolinguistic appropriateness in speech. Prerequisite: Korean 102 or equivalent (ability to communicate in service encounters and express oneself in basic personal situations). Instructor: E. Kim. One course.

204. Intermediate Korean. CZ, FL Continuation of Korean 203. Listening and speaking about cultural practices and historical events, reading and writing informative and expository texts, and honing grammatical usage and vocabulary choice. Prerequisite: Korean 203 or equivalent (ability to speak on daily topics fluently and to read simple stories). Instructor: Kim. One course.

305. Advanced Korean. ALP, CCI, FL Listening and speaking about cultural, social, and political issues; reading and responding to authentic texts; honing grammatical usage at the discourse level. Prerequisite: Korean 204 or equivalent (fluency in speaking, familiarity with culture, and experience in reading at grade 1 to 3 level). Instructor: Kim. One course.

306S. Advanced Korean. CCI, CZ, FL Continuation of Korean 305. Introduction to Chinese characters; focus on reading and discussing authentic texts on modern Korean history and its social and cultural legacies. Prerequisite: Korean 305 or equivalent (fluency in speaking, familiarity with culture, and experience in reading at grade 4 or 5 level). Instructor: Kim. One course.

391. Independent Study. Individual study of language for conducting research involving sources written or spoken in the language. Students have to submit a proposal describing the purported research, types of sources to be analyzed, and kinds of language knowledge or skills they need to be equipped with. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

407S. Issues in Korean Language and Society I. ALP, CCI, FL Focus on developing interpretive and expressive abilities through reading and discussions of essays, short stories, and newspaper articles. Prerequisite: Korean 306S or equivalent. Instructor: Kim. One course.

408S. Issues in Korean Language and Society II. ALP, CCI, FL Continue developing interpretive and expressive abilities through reading and discussions of essays, short stories, and newspaper articles. Prerequisite: Korean 407S or equivalent. Instructor: Kim. One course.

455S. Korean Politics and Society: Academic Reading and Writing. CCI, CZ, EI, FL, SS An advanced class for students having completed a fourth year course in Korean, or for international students schooled in Korea. Explores controversial issues in contemporary South Korea such as economic aid to North Korea, restrictions on online anonymity, legal status of immigrants, the US-Korea Free Trade Agreement, revision of National Security Laws, with focus on their ethical dimensions, diverging perspectives, underlying ideologies, and historical contexts. Course materials drawn from media and academic publications in Korean. Instructor: Staff. One course.

PERSIAN (PERSIAN)

102. **Elementary Persian. FL** Continuation of Persian 101. Instructor: Staff. One course.

203. **Intermediate Persian. FL** Four hours of classroom work. Advanced reading and composition in classical Persian. Prerequisite: elementary Persian. Instructor: Staff. One course.

204. **Intermediate Persian. FL** Continuation of Persian 203. Instructor: Staff. One course.

391. **Independent Study.** Individual study of language for conducting research involving sources written or spoken in the language. Students have to submit a proposal describing the purported research, types of sources to be analyzed, and kinds of language knowledge or skills they need to be equipped with. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

490AS. **Duke-Administered Study Abroad: Advanced Special Topics in Persian. CCI** Topics differ by section. Instructor: Staff. One course.

**SANSKRIT (SANSKRIT)**

101. **Introductory Sanskrit Language and Literature.** Introduces classical, literary Sanskrit, the ancient and trans-continental language of India's intellectual heritage, history, and sacred scriptures. Teaches students Devanagari script, to learn and analyze grammatical forms and structures, vocabulary, and to interpret meaning. Provides an overview to the literature and civilizational importance of Sanskrit, from the ancient past to the present. Instructor: Freeman. One course. C-L: Religion 107

102. **Introductory Sanskrit Language and Literature.** Continuation of Sanskrit 101/Religion 107, as prerequisite. Further learning of grammatical forms and structures of the higher language. Introduction of elementary readings from literature and scriptures. Instructor: Freeman. One course. C-L: Religion 108

203. **Intermediate Sanskrit.** Selected readings in the literature and scriptures, with introduction to the conventions of traditional literary forms, grammar, and interpretation. Prerequisite: Sanskrit 102/Religion 108. Instructor: Freeman. One course. C-L: Religion 209

391. **Independent Study.** Individual study of language for conducting research involving sources written or spoken in the language. Students have to submit a proposal describing the purported research, types of sources to be analyzed, and kinds of language knowledge or skills they need to be equipped with. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

**THE MAJOR**

Asian and Middle Eastern Studies offers a curriculum that reflects an increasing awareness of the interconnectedness of the globe. It provides students with an understanding of languages, literatures, and cultures beyond America and the West to prepare them for professional work or advanced graduate study in a number of international arenas. The curriculum is based on a theoretical framework that examines contemporary cultures of Asia and the Middle East within a global context. Its mission is to foster a view of literature and culture at once indigenous and global, informed by local histories of internal development as well as by theories of cross-cultural influence. The course requirements for the major provide an intellectual vision that includes both study of language and culture practice and a critical theoretical framework for analyzing cultural experience.

The major requires a minimum of ten courses (at least eight of which must be at the 200 level or above), with concentration in one of the six following areas: Arabic, Chinese, Hebrew, Hindi, Japanese, or Korean. Students must receive a C- or above in all courses taken for the major. The major is organized in accordance with three overlapping structures, as reflected in the following requirements:

I. **For advanced linguistic skills,** the student should take a minimum of three and up to a maximum of six language courses, two of which must be at the 300 level or above. Elementary level courses do not count toward the major.

II. **For comprehensive understanding and critical analysis of the literary and cultural traditions, along with theoretical examination of cultural identities such as gender, class, ethnicity, nation, and sexuality,** the student is required to take a minimum of three and up to a maximum of five corresponding literature/culture courses at the 100 level or above, two of which must be taken
in the department of Asian and Middle Eastern Studies. Majors should consult with their advisor for appropriate courses from other departments.

III. For critical analysis of the issue of cultural identities and cross-cultural links with other cultures in Asian and Middle Eastern Studies, every student is required to complete a minimum of one and up to a maximum of two Asian and Middle Eastern Studies courses at the 100 level or above on other cultures.

Study Abroad. An integral part of the student's experience will be study abroad; while not a requirement of the major, it is strongly encouraged. Students should discuss this option as early as possible with their major advisor.

Advising. Majors will be assigned a faculty advisor from the department.

Departmental Graduation with Distinction. Majors with grade point averages of 3.5 or higher in the major may apply in their junior year to the Director of Undergraduate Studies for Graduation with Distinction (see the section on honors in this bulletin). Students working on their honors thesis will take an independent study with their thesis advisor in the Fall of their senior year, and will take a departmental honors seminar (AMES 495S) in the Spring. Students will have an oral defense of their theses at the end of their final semester, at which point their thesis committee will determine what level of distinction the student will receive. In order to graduate with honors, the student must obtain at least an A- in the honors seminar.

THE MINOR

A minor is offered to students interested in the study of language, literature, and culture of a particular region of Asia and the Middle East. Areas of concentration include: Arabic, Chinese, Hebrew, Hindi, Japanese, or Korean.

The minor offers two tracks: Concentration in (1) an Asian and Middle Eastern Studies with a Language Concentration and (2) in Asian and Middle Eastern Studies with a Literature Concentration. Five courses are required in each track. Students must receive a C- or above in all courses taken for the minor.

1. Minor in an Asian and Middle Eastern Studies with a Language Concentration: includes Arabic, Chinese, modern Hebrew, Hindi, Japanese, or Korean. Five courses are required as follows: (i) a minimum of three and up to a maximum of four language courses, two of which must be at the 300 level (elementary level courses do not count toward the minor); (ii) a minimum of one and up to a maximum of two corresponding literature/culture courses at the 100 level or above which must be taken from the department of Asian and Middle Eastern Studies.

2. Minor in Asian and Middle Eastern Studies with a Literature Concentration: Five courses are required as follows: (i) two language courses at the intermediate (200) level or above; (ii) a minimum of one and up to a maximum of two corresponding literature/culture courses at the 100 level or above from Asian and Middle Eastern Studies; and (iii) a minimum of one and up to a maximum of two courses on other cultures at the 100 level or above, which must be taken from the department of Asian and Middle Eastern Studies.

Astronomy

For courses in astronomy, see Physics on page 483.

Biochemistry

For courses in biochemistry, see Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates (on page 440); also see Biology (on page 179) and Chemistry (on page 200).

Biology (BIOLOGY)

Professor Kiehart, Chair; Professor Manos, Director of Undergraduate Studies; Assistant Professor of the Practice J.A. Reynolds, Associate Director of Undergraduate Studies; Professors Alberts, Benfey, Brandon (philosophy), Christensen (Environmental Sciences and Policy), Clark, , Cunningham, Dong, Forward (Marine Science and Conservation), Goldstein (molecular genetics and microbiology), Jackson.
A major or a minor is available in this department.

The biology major and minor and biology courses in a variety of areas are offered by the Department of Biology. Additional courses in the biological sciences are offered by the Departments of Evolutionary Anthropology, Chemistry, and Psychology and Neuroscience in Trinity College of Arts and Sciences; by the basic sciences departments in the School of Medicine; and by the Pratt School of Engineering and the Nicholas School of the Environment.


89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

150. Biology of Aging: The Quest for a Fountain of Youth. EI, NS, STS Current research in the cellular and molecular mechanisms of aging, specifically focusing on model organisms (e.g., yeast, worms, and flies) and how this is being applied to extending longevity in humans. Topics including the forces of natural selection and aging, stress and telomere length, free radicals and oxidative damage, calorie restriction, the obesity epidemic, degenerative diseases and stem cells. Social and political impact of increasing life expectancies and the consequences of shifting global demographics. Ethical questions such as the value of doubling human life span. Intended for nonmajors. Instructor: Hill. One course.

151. The Role of Trees in Urban Environments. NS, STS Discussion in first part of course of various environmental properties of city living; in second part, examination of how trees, as a proxy for vegetation, affect those properties. Also discussed are socioeconomic aspects of trees in the city. Instructor: Wilson. One course.

152. Life's Beginnings. NS, STS Cells, molecules, and evolution from the start. The origin and evolution of life on earth as a case study in science, as a human enterprise, and as a way of knowing. Intended for non-biology majors. Instructor: Mercer. One course.


154. AIDS and Other Emerging Diseases. NS, STS Explores the interaction of biology and culture in creating and defining diseases through an investigation of acquired immunodeficiency syndrome (AIDS) and other emerging diseases: molecular biology; biology of transmission and infection; the role of people and culture
in the evolution of infectious diseases; reasons for the geographic variations in disease. The inductive-deductive methodology of science is both used to develop and test hypotheses as well as examined itself as an analytical tool. Intended for nonmajors. Instructor: Broverman. One course. C-L: International Comparative Studies 103, Global Health

155. The Biology of Dinosaurs. NS, STS Introduction to the history of ideas about the anatomy, diversity, behavior, reproduction, and ecology of dinosaurs and their relatives. The historical and social contexts of important scientific discoveries and controversies. Controversies and current research used to illustrate the scientific method as a way of learning about the natural world. Topics such as plate tectonics, the age of the earth, natural selection, and parental care in dinosaurs illustrating how scientists draw upon observation and experiment to frame, test, and refine hypotheses. Intended for nonmajors. Instructor: Wray. One course.

156. Genetics, Genomics, and Society: Implications for the 21st Century. EI, NS, SS, STS Introduction to the foundation of genomic sciences with an emphasis on recent advances and their social, ethical and policy implications. Foundational topics including DNA, proteins, genome organization, gene expression, and genetic variation will be interwoven with contemporary issues emanating from the genome revolution such as pharmacogenetics, genetic discrimination, genomics of race, genetically modified crops, and genomic testing. Genomic sciences and policy science applied to present and future societal, and particularly ethical, concerns related to genomics. Intended for non-Biology majors. Not open to students who have taken Biology 210FS, 201L or 202L. Instructor: Hill. One course. C-L: Genome Sciences and Policy 156, Marine Science and Conservation

157. The Dynamic Oceans. NS, STS One course. C-L: see Earth and Ocean Sciences 102; also C-L: Marine Science and Conservation

158. Plants and Human Use. NS, STS Historical and present interactions between humans and plants like coffee, tea, sugar, opium, pepper, potato and hemp, illustrating major changes in human civilization and cultures as a result. Social economic, trade, exploration, spiritual, medicinal, and plant structural and chemical reasons underlying the pivotal roles certain plant species have played in the development of human culture and technology. Case studies of different plant commodities (products) revealing these biological and historical interactions. For nonmajors. Instructor: Pryer. One course.

159. The Past and Future of the Human Genome. EI, NS, SS, STS Exploration of current DNA technology and potential impacts which are in continual flux because of new scientific findings, medical advances, judicial rulings. Introduction to the structure of the genome, genetic variation, and the genetic basis of disease to study existing and future medical, ethical, and policy issues. Intended for nonmajors. Instructor: Goldstein and Angrist. One course. C-L: Genome Sciences and Policy 159

161. Plants of Duke Campus. NS Ecology, morphology, and identification of trees and shrubs; topics include plant anatomy and wood structure, reproduction, classification, evolution; outdoor class meetings focus on identification of native and cultivated species; intended for nonmajors. Instructor: Shaw. One course.

175LA. Marine Biology. EI, NS, STS Physical and chemical aspects of estuarine and marine ecosystems and environments. Functional adaptations of marine organisms and the role of man and society on the ecosystems. Includes field trips to local environments with an emphasis on impacted environments and their relation to societal activity and policy. For students not majoring in natural sciences. (Given at Beaufort.) Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation

179S. Biology and Human Disease. NS, STS Exploration of important concepts in molecular biology and genetics designed for members of the Cardea Fellows Program. The course will cultivate curiosity and promote deep understanding of important biological principles by examining them in the context of human health and disease. Students will utilize case studies and group problem solving to apply biological knowledge to biomedical and societal challenges. Consent of instructor required. Instructor: Perz-Edwards. One course.
180FS. Global Diseases. NS, STS Biological, social, and cultural factors impacting global disease spread and/or reduction; current challenges in vaccination and disease control programs. Open only to students in the Focus Program. One course. C-L: Global Health

190A. Duke-Administered Study Abroad: Special Topics in Biology. NS, STS Topics differ by section. Instructor: Staff. One course.

190FS. Focus Program Topics in Biology. NS Open only to students in the Focus Program; for first-year students with consent of instructor. Instructor: Staff. One course.

190S. Topics in Modern Biology. NS Occasional seminars in various topics in biology. Intended for nonmajors. Instructor: Staff. One course.

201L. Gateway to Biology: Molecular Biology. NS, STS Introduces major concepts in biology through the lens of molecular biology. Molecular mechanisms that comprise the Central Dogma and variants. DNA structure and function, replication, transcription, and translation. Protein synthesis, folding, structure and function. Supporting topics related to the structure of cells, metabolism and energetics. Integration of physical and quantitative principles to molecular biology. Relevance to human diseases and the biotechnology industry. Laboratory includes an introduction to recombinant DNA technology. Prerequisite: Chemistry 101DL, or equivalent. Instructor: Buchler, Haase, Kiehart, Wray. One course.

201LA. Gateway to Biology: Molecular Biology. NS, STS Introduces major concepts in biology through the lens of molecular biology. Molecular mechanisms that comprise the Central Dogma and variants. DNA structure and function, replication, transcription, and translation. Protein synthesis, folding, structure and function. Supporting topics related to the structure of cells, metabolism and energetics. Integration of physical and quantitative principles to molecular biology. Relevance to human diseases and the biotechnology industry. Laboratory includes an introduction to recombinant DNA technology. Prerequisite: Chemistry 101DL. Taught only in the Beaufort Marine Lab program. Instructor: Schultz. One course. C-L: Marine Sciences, Marine Science and Conservation


204. Biological Data Analysis. NS, QS Principles and applications of statistics in biology, with emphasis on genetics, molecular biology, ecology and environmental science. Topics include: the presentation of biological data, summary statistics, probabilities and commonly-applied probability distributions, the central limit theorem, statistical hypothesis tests, errors and power, tests using the z- and t-distributions, correlation and regression, analyses of variance and covariance, non-parametric tests, and sampling design. Not open to students who have credit for another 100-level statistics course. Instructor: Rodrigo. One course.

205. Marine Megafauna. NS, STS Ecology, systematics, and behavior of large marine animals including giant squid, bony fishes, sharks, sea turtles, seabirds, and marine mammals. Relations between ocean dynamics, large marine animals, and their role in ocean food webs. Impact of human activities and technological advancement on populations. Economic, social, and policy considerations in the protection of threatened species. Prerequisite: AP Biology, Introductory Biology, or consent of the instructor. Instructor: Johnston. One course. C-L: Environment 205, Marine Sciences, Marine Science and Conservation

206L. Organismal Diversity. NS Broadly integrated survey of biological diversity, including the major lineages of prokaryotes, plants, protists, animals and fungi, with an emphasis on evolutionary relationships, ecological and functional anatomical features of major groups. Lectures closely coordinated with twice-weekly intensive laboratory exercises emphasizing live material to present. Required weekend field trips to distinctive habitats in North Carolina. Intended for Biology or prospective Biology majors. Prerequisite:
Biology 20 or 202L, recommended. Not open to students who have taken Biology 26AL, 26B(L) 207. Instructor: Motten. One course.

207. Organismal Evolution. NS Exploration of the diversity of life by emphasizing evolutionary, structural, and functional aspects of the major lineages of bacteria, plants, protists, animals and fungi. Not open to students who have taken Biology 26AL, 26B(L), or 206L. Instructor: Manos and Cunningham. One course.

209. Ecology for a Crowded Planet. NS, STS Human activities are fundamentally altering our landscapes and our atmosphere. The science of ecology is central to our ability to sustain populations of organisms, regional and global biodiversity, and the provision of critical ecosystem services. Course emphasizes critical analysis of ecological data and the design and interpretation of ecological experiments and models. Students will become well equipped to evaluate environmental science as it is reported in the popular press. Instructor: Bernhardt, Reid, or Wright. One course.

210FS. Genomes, Biology, and Medicine. NS, R, STS Implications of Human Genome Project for understanding biology of molecules, cells, organs, organisms and populations. Topics include: genome and evolution, infectious disease, sex, Implications of Human Genome Project for understanding biology of molecules, cells, organs, organisms and populations. Topics include: genome and evolution, infectious disease, sex, aging, behavior, impact on the practice of medicine and society's perception of health and disease. Examination of case studies based on primary scientific literature. Open only to students in the Focus Program. Prerequisite: Biology 20 or the equivalent. Instructor: Willard. One course. C-L: Genome Sciences and Policy

212L. General Microbiology. NS Classical and modern principles of the structure, physiology, and genetics of microorganisms and their roles in human affairs. Prerequisite: one course in a biological science or consent of instructor. Instructor: Dong, Lutzoni, Schmid, or Vilgalys. One course. C-L: Global Health

213. Cell Signaling and Diseases. NS During the past several decades, exploration in basic research has yielded extensive knowledge about the numerous and intricate signaling processes involved in the development and maintenance of a functional organism. In order to demonstrate the importance and processes of cellular communication, this course will focus on cell signaling mechanisms and diseases resulting from their malfunction, such as cancer, stroke, and neuron degeneration (including Parkinson's disease, Alzheimer's disease, Huntington's disease, and Amyotrophic lateral sclerosis). Students will be exposed to current literature and cutting edge knowledge. Prerequisite: Biology 201L. Instructor: Chen and Pei. One course.

214L. Experimental Cell and Molecular Biology. NS, R, W Application of contemporary molecular techniques to biological problems. Questions addressed on protein-DNA binding, protein domain structure and function, differential gene expression, protein localization. Techniques include genetic transformation, gel mobility shift assay, Western blot, Northern blot, PCR, RT-PCR, microarrays, immunolocalization, DNA sequencing. Students learn to write three scientific-style papers on their experiments. Prerequisite: Biology 201L or 202L. Instructor: Armaleo. One course.


219. Modern Genetics and Genomics: from Microbes to Mammals. NS Explores the flow of information from gene to phenotype, and the social implications of modern genetic analysis and the genomic revolution. Topics include: organization and stability of genomes from bacteria to humans, conversion of the genetic code into a functioning organism, classical transmission (Mendelian) genetics and its relevance to human hereditary...
disorders, content of the genome and societal issues that include genetic privacy, eugenics, genetically modified organisms, and cloning. Prerequisites: Bio 201L and Bio 202L. Instructor: Bejsovec. One course. C-L: Genome Sciences and Policy

220. Cellular and Developmental Biology. NS The role of genes and proteins in mediating basic cellular and development processes. Topics include: structure and function of cellular membranes and organelles; protein targeting and transport; signal transduction; role of the cytoskeleton in cell shape and motility; function of the immune system; genetic regulation of cell growth/division and the relationship to cancer; genetic control of development processes. Prerequisite: Biology 201L. Instructor: Baugh, Chen, Kiehart, McClay, Pei, D. Sherwood, or staff. One course.

223. Cellular and Molecular Neurobiology. NS This course will cover the molecular and cellular components underlying nervous system function. Topics include the regulation of the neuronal cytoskeleton, process outgrowth and axon guidance, transport mechanisms, the generation and propagation of the action potential, components of the presynaptic and postsynaptic terminals, growth factors in development and regeneration, neuronal stem cells, and sensory signal transduction. Lectures by the instructor and expert guests, with regular readings of current and/or historical primary literature. Prerequisites: Biology 20 or 201L or equivalent, and Psychology 106. Instructor: Sherwood and Volkan. One course. C-L: Neuroscience 223

224. Fundamentals of Neuroscience (B). NS, STS One course. C-L: see Psychology 275; also C-L: Neuroscience 201

227. Molecular Plant Physiology. NS Principal physiological processes of plants, including respiration, photosynthesis, water relations, and factors associated with plant morphogenesis. Prerequisites: Biology 20 or 201L and Chemistry 101DL; organic chemistry is desirable. Instructors: Pei, Siedow, and Sun. One course.

228. Food and Fuel for a Growing Population: Nuts and Bolts of Plant Growth and Production. NS, STS Covers primary physiological processes from subcellular to whole plant that affect plant growth in a changing environment. Processes include photosynthesis, respiration, water relations, nutrient and carbohydrate allocation, signaling, and stress responses to various biotic and abiotic factors for a range of plant species adapted to different environments. Applications include plant improvement for food and biofuel production, management of plant growth in response to global change. Local field trip planned. Prerequisites: Biology 201L or 202L. Instructors: Reid and Siedow. One course. C-L: Environment 228

232S. Comparative Biomechanics. NS How living organisms interact with the physical world, their design, and operation. Covers solid and fluid mechanics using examples from plants, invertebrates, and vertebrates. Emphasizes biological principles. Prerequisite: Physics 141L or equivalent. Instructor: Staff. One course.

248. Evolution of Animal Form. NS, R, W A survey of the history of animal life focusing on major revolutions in design such as the Cambrian explosion, the Mesozoic radiation of dinosaurs, and the Cenozoic radiation of mammals. Exploration of three views of form: the Darwinian view which stresses function; the historicist view which emphasizes historical accident; and the structuralist view that form is mainly the result of fixed mathematical relationships. The different ways in which each view applies the comparative method. Prerequisite: Biology 20 or 202L. Instructor: McShea. One course.

250. Population Genetics. NS Use of genetic sequence analysis to examine aspects of natural populations of humans and other organisms in the past and present. Topics include molecular phylogenetics; the origin, maintenance, and loss of major features of evolution; the evolutionary process at the molecular level; reconstruction of human origins and paleohistory; and genetic information in forensic studies. Instructor: Uyenoyama. One course. C-L: Modeling Biological Systems

251. Molecular Evolution. NS Evolutionary dynamics of genes in populations, molecular phylogenetics, evolutionary pattern and process at the molecular level and some of their consequences for organism-level evolution. Evolution of genomes, gene families, gene function, regulatory genes, and of developmental control genes. Prerequisite: Biology 201L, and 202L or Biology 20, or consent of instructor. Instructor: Mercer. One course.
251L. Molecular Evolution. NS, QS, R Evolution of genes, gene families, and genomes and relation to their structure, function and history. Contemporary computer-based analysis of nucleic acid and protein evolution including: BLAST searches; sequence alignment; estimation of rates, patterns, types of substitution; interpreting evolutionary changes in structure-function relations; protein homology modeling; visualizing and annotating protein structure. Prerequisite: Biology 201L or consent of the instructor. Instructor: Mercer. One course.

255. Philosophy of Biology. CZ, NS, R, STS One course. C-L: see Philosophy 314; also C-L: Genome Sciences and Policy, Marine Science and Conservation

261S. Ecosystem Ecology for a Crowded Planet. EI, NS, STS Concepts of ecosystem ecology within the ethical, social and political context context of current environmental policy issues. Lectures, discussions and class activities examine environmental policy issues, linkage between ecosystem science and political issues. Prerequisites: Biology 209 or Environment 89S or consent of instructor. Bernhardt. One course. C-L: Environment 261S

262. People, Plants and Pollution: Introduction to Urban Environments. NS, STS Cities turn natural lands into impervious surfaces, like roofs and parking lots, while trees, forests, and grass decrease. Course covers urban environmental issues, including energy and carbon, air, heat, and water pollution, the health and welfare of people, and changes in other species and regional/global climatic patterns. Examines costs/benefits of urban nature on solving urban environmental problems, including enhancing the social welfare of people's lives. Instructor: Wilson. One course. C-L: Environment 274

267. Evolution of Animal Behavior. NS, R, STS, W How animal behavior is shaped by natural selection, historical factors, and ecological constraints. These factors considered in the context of mating systems, parental care, foraging, and other current issues in behavior. Prerequisite: Biology 20 or 202L. Instructor: Alberts. One course.


268. Learning and Adaptive Behavior (B, C). NS One course. C-L: see Psychology 251

270A. Conservation Biology and Policy. EI, NS, STS Introduction to the key concepts of ecology and policy relevant to conservation issues at the population to ecosystems level. Focus on the origin and maintenance of biodiversity and conservation applications from both the biology and policy perspectives (for example, endangered species, captive breeding, reserve design, habitat fragmentation, ecosystem restoration/rehabilitation). (Given at Beaufort.) Prerequisites: introductory biology; suggested: a policy and/or introductory ecology course. Instructors: Nowacek and Orbach. One course. C-L: Environment 270A, Marine Sciences, Marine Science and Conservation

272A. Analysis of Ocean Ecosystems. NS The history, utility, and heuristic value of the ecosystem; ocean systems in the context of Odum's ecosystem concept; structure and function of the earth's major ecosystems. (Given at Beaufort.) Prerequisite: one year of biology, one year of chemistry, or consent of instructor. Instructor: Johnson. One course. C-L: Environment 272A, Earth and Ocean Sciences 272A, Marine Sciences, Marine Science and Conservation

273LA. Marine Ecology. NS, R, W Factors that influence the distribution, abundance, and diversity of marine organisms. Course structure integrates lectures and field excursions. Topics include characteristics of marine habitats, adaptation to environment, species interactions, biogeography, larval recruitment, and communities found in rocky shores, tidal flats, beaches, mangrove, coral reefs, and subtidal areas. Not open to students who have taken Biology 773LA. (Given at Beaufort fall and summer.) Prerequisite: introductory biology. Instructors: Crowder, Kirby-Smith, or staff. One course. C-L: Environment 273LA, Earth and Ocean Sciences 374LA, Marine Sciences, Marine Science and Conservation

275A. Biology for Engineers: Informing Engineering Decisions. NS, STS Biology from an engineering perspective. Emphasis on biological processes that inform engineering decisions. Topics include:
environmental chemicals, biological command and control, nanostructures, e-waste, biology and engineered materials, organotoxins, metaltoxins, nanotoxins, biofouling, biomemetics, biological glues, biocorrosion, biodegradation, bioremediation, biological resistance, and biological virulence. Environmental and human health policy. (Given at Beaufort.) Prerequisite: introductory chemistry. Instructor: Rittschof. One course. C-L: Marine Sciences, Marine Science and Conservation

278LA. Physiology of Marine Animals. NS, R, W Comparative physiology of estuarine and marine animals. Physics and chemistry of estuarine and marine environments and physiological adaptations of animal residents. Focus on theory, behavioral, and physiological responses of animals to the major environmental drivers of temperature, salinity, oxygen, and light. Lectures and laboratories illustrating the approaches and methodology, analysis techniques, and written reporting of classical environmental physiology research. One course (fall); one and one-half courses (summer). (Given at Beaufort.) Prerequisites: AP biology, introductory biology, or consent of the instructor, and Chemistry 101DL. Instructor: Forward. Variable credit. C-L: Environment 278LA, Marine Sciences, Marine Science and Conservation

280A. Fundamentals of Tropical Biology. NS Conceptual themes in ecology, emphasizing tropical organisms and ecosystems. Topics range from behavioral and physiological adaptation of individuals to processes and patterns in diverse assemblages, including: mutualism and parasitism in the tropics, competition and the structure of tropical guilds, pollination ecology, forest dynamics and gap-phase regeneration, island biogeography and the design of biological reserves, and evolutionary processes responsible for promoting high tropical biodiversity. (Taught in Costa Rica.) Instructor: Staff. One course.

280LA. Fundamentals of Tropical Biology. NS, R Laboratory version of Biology 280A. Field activities and independent field research projects. (Taught in Costa Rica, summer). Instructor: Staff. One course. C-L: Latin American Studies

281LA. Research Methods in Tropical Biology. NS, R, W Field-based course. Student design and implementation of ecological projects in different tropical ecological zones. Introduces basic concepts in statistical populations, sampling techniques, and experimental design and hypothesis testing. Topics include: measuring abiotic micro- and macroclimatic variables; estimating population abundance and distribution; performing demographic and life history analyses; investigating mutualistic, competitive, and predator-prey coevolutionary processes; and measuring patterns of species diversity. (Taught in Costa Rica.) Instructor: Staff. One course. C-L: Latin American Studies

282LA. Introduction to Field Ethnobiology. NS, STS Four-week summer course in Costa Rica on the scientific study of subsistence, medicinal, ceremonial, and esthetic use of plants and animals by human societies. Lectures and demonstrations in San José. Travel to southern Costa Rica to learn the use of resources in contrasting communities including Zancudo coastal community, Abrojos Guaymi Indian Reservation, and Guatil, a Chorotega Indian village. Offered by the Organization for Tropical Studies in Costa Rica from mid-July to mid-August. Prerequisites: one semester of biology and Spanish. Taught at Gómez, Las Cruces Biological Station/Wilson Botanical Garden. Instructor: Staff. One course.

284A. South African Ecosystems and Diversity. NS, STS Conceptual themes in ecology emphasizing savannas; also consideration of fynbos, highveld, podocarp forests, coastal and intertidal zones. Topics include climate and geology of South Africa; roles of fire, drought, human presence, invasive species, and herbivores in shaping ecosystems; top-down and bottom-up control of mammalian herbivores; plant pollination and seed dispersal; role of rivers in defining savanna characteristics; origin and maintenance of biodiversity; vertebrate social systems; major research programs in Kruger National Park (taught in Kruger National Park, South Africa). Prerequisite: Biology 20 or introductory ecology. Instructor: McClearn. One course. C-L: Environment 284A

285LA. Field Research in Savana Ecology. NS, R, W Field-based course stressing student design and implementation of research projects in savanna ecosystems. Introduces basic concepts in experimental design and hypothesis testing, long-term monitoring, sampling techniques, parametric and nonparametric analysis.
Each student will participate in several faculty-led research projects. In addition, students in small groups will design independent projects, consult with faculty, collect and analyze data, and make oral and written presentations of their results. Each student will work on two of these independent projects. (Taught in Kruger National Park, South Africa) Prerequisite: Biology 20 or introductory ecology or equivalent. Instructor: Staff. One course. C-L: Environment 285LA

288A. Biogeography in an Australian Context. NS, STS Distribution of plants and animals in space and time as determined by the interaction of geophysics, geology, climate, and evolutionary history. Special emphasis on the unique terrestrial and marine faunas and florulas of the Australian continent and on the impact of humans on the distribution of these plants and animals. Taught in Australia. Instructor: Manos, Shaw, or Vilgalys. One course. C-L: Environment 288A, Earth and Ocean Sciences 288A

290. Topics in Biology. NS Occasional topics in the biological sciences. Instructor: Staff. One course.

290S. Seminar in Biology. NS Instructor: Staff. One course.

293. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to all qualified students with consent of supervising instructor and director of undergraduate studies. May be repeated. Continued in Biology 493. Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation

293-1. Research Independent Study. R Individual research and reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to all qualified students with consent of supervising instructor and director of undergraduate studies. Instructor: Staff. Half course. C-L: Marine Sciences, Marine Science and Conservation

293A. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. May be repeated. Continued in Biology 493A. Taught only in the Beaufort Marine Lab program. Instructor: Staff. One course. C-L: Marine Science and Conservation

309S. Current Research in Biology. EI, NS, STS, W Biology Research Forum Fellows write and review research proposals, discuss ethical issues in the conduct of biological and biomedical research, and present and discuss their research projects. Consent of instructor required. Instructor: Sun. One course.

311. Systems Biology: An Introduction for the Quantitative Sciences. NS Introduction to concepts and applications of Systems Biology. Identification of molecular interactions that underlie cellular function using high dimension data acquired through high-throughput approaches. Intended for students with prior training in quantitative fields (computer science, math, physics, statistics, engineering). Instructor: Benfey, Haase, or Schmid. One course. C-L: Genome Sciences and Policy

321. Primate Sexuality. NS, STS One course. C-L: see Evolutionary Anthropology 341

321D. Primate Sexuality. NS, STS One course. C-L: see Evolutionary Anthropology 341D

329D. Principles of Animal Physiology. NS Non-laboratory version of Biology 329L. Does not carry the R or W curricular designations. Not open to students who have taken BIO 329L or BME 244L. Prerequisites: Biology 20 or 201L and Physics 141L and Chemistry 101DL. Instructor: Staff. One course.

329L. Principles of Animal Physiology. NS, R, W Animals as physical and chemical machines; respiration, circulation, neural and hormonal coordination, movement, water balance/excretion, metabolism, thermoregulation, digestion, and responses to special environments. Comparative study of all animals, with an emphasis on vertebrates. Laboratories and independent investigations. Research proposal and class presentation required. Not open to students who have taken Biology 329D or BME 244L. Prerequisites: Biology 20 or 201L and Physics 141L and Chemistry 101DL. Instructor: Staff. One course.
330L. Comparative and Functional Anatomy of the Vertebrates. NS The structure, function and evolution of the vertebrate body. Emphasis on understanding the functional, evolutionary and developmental basis for the similarities and differences observed among living vertebrates. Laboratories examining specific problems in the evolution of major organ systems through dissection, comparison and analysis of functional data. Instructor: Smith. One course.

333L. Principles of Animal Morphology. NS, R Principles of animal structure, from three different perspectives: (1) function; (2) development and; (3) evolution. Prerequisites: Biology 107 or Biology 377LA or equivalent course in animal diversity. Instructor: Roth. One course.

340L. Plant Diversity. NS Major groups of living plants, their evolutionary origins and phylogenetic relationships. Instructor: Shaw. One course.

341L. Plant Communities of North Carolina. NS Overview of plant communities in the mountains, piedmont, and coastal plain of North Carolina, primarily through field trips. The dominant native plants of each community; the biology and identification of important invasive species. Required weekend field trip to the mountains, and several weekend day trips. Instructor: Manos. One course.

342L. Plant Systematics and Evolution. NS, STS Plants as providers of food, shelter, and medicine and as one of evolution's great success stories. Phylogenetic principles and methods of analysis used to recognize major families of vascular plants. Flowering plants and the evolution of floral form and function, pollination, and breeding systems. Sources of taxonomic evidence including morphology, anatomy, and DNA. Both traditional and modern identification tools. The interdisciplinary nature of plant systematics and its importance in modern society. Prerequisite: Biology 20 or 202L. Field trips. Instructor: Pryer. One course.


345. Dinosaurs with Feathers and Whales with Legs: Major Evolutionary Transitions in the Fossil Record. NS, STS One course. C-L: see Earth and Ocean Sciences 341

350. Complex Traits and Evolutionary Genetics. NS Introduction to the principles of evolutionary genetics and variation of complex phenotypic traits. Genetic variation, neutral theory, natural selection, quantitative genetics, human population genetics, phylogenetic reconstruction, evolutionary genomics, and evolutionary bioinformatics. Prerequisites: Biology 20 or 202L. Instructor: Mitchell-Olds. One course. C-L: Genome Sciences and Policy

361LS. Terrestrial Field Ecology. NS, R, W Ecosystem, community, and physiological ecology of temperate plants and animals through hands-on experimentation. How biological processes are affected by biotic interactions. Theory and methods reviewed through discussions; hypothesis formulation, experimental design, data acquisition and processing, and data analysis learned through field investigation. Includes several field trips, including two weekends. Prerequisites: Biology 20 or one course in ecology or consent of instructor; Mathematics 21. Instructor: Wright. One course. C-L: Environment 361LS

362LS. Aquatic Field Ecology. NS, R, W Explore the stream, wetland and reservoir ecosystems of NC. Through hands on inquiry and field experimentation students will gain experience in formulating hypotheses, designing field observations and experiments, analyzing field data and interpreting field results. In addition to weekly field labs, the course will include two weekend field trips, one to the Duke Marine Lab and the second to the NC mountains. Prerequisites: Biology 20 or one course in ecology or consent of instructor; Mathematics 21. Instructor: Bernhardt. One course. C-L: Environment 213LS
365. From Influenza A to Varicella Zoster: The Physiology, Ecology, and Evolution of Infectious Disease. NS Covers the physiology and the ecological and evolutionary dynamics of a suite of infectious diseases. Case studies include influenza, cholera, HIV, and myxomatosis, among others, with an emphasis on pathogens infecting humans. Topics include: basic immunology, the physiology of different disease processes and transmission, the role of population size on disease transmission, the effects of climate and behavioral changes on disease dynamics, networks of disease spread, spatial spread of disease, evolution of virulence, antigenic evolution, emerging infectious diseases. Pre-reqs: Biology 201L and 202L. Instructor: Johnsen and Koelle. One course.

369LA. Biological Oceanography. NS, R Physical, chemical, and biological processes of the oceans, emphasizing factors controlling distribution and abundances of organisms. The theory, methods, and limitations of biological oceanographic research. The laboratory teaches quantitative methods, experimental design, data acquisition, data processing, and data analysis and culminates in a research cruise where the students organize into a scientific party. One course (spring); one and one-half courses (summer). (Given at Beaufort) Prerequisite: AP Biology, Introductory Biology, or consent of the instructor. Instructor: Johnson. Variable credit. C-L: Environment 369LA, Earth and Ocean Sciences 273LA, Marine Sciences, Marine Science and Conservation

372LA. Biochemistry of Marine Animals. NS, R, W The molecular basis of behavioral and physiological responses of organisms. Evolution of molecular endocrinology and signal transduction pathways. Focus on the theory and research methodology used to study the evolution of molecular signaling and control systems. Research projects using local invertebrates to study behavioral and physiological responses to environmental signals. Field trips include night walks in local environments and marine fossil expeditions to local strip mines involved with production of fertilizer, food additives, cement, and gravel. One course (fall); one and one-half courses (summer). (Given at Beaufort.) Prerequisites: AP Biology, introductory biology, or consent of instructor; and Chemistry 101DL. Instructor: Rittschof. Variable credit. C-L: Environment 372LA, Marine Sciences, Marine Science and Conservation

373LA. Sensory Physiology and Behavior of Marine Animals. NS, R, W Sensory physiological principles with emphasis on visual and chemical cues. Laboratories will use behavior to measure physiological processes. (Given at Beaufort.) Prerequisites: AP Biology or introductory biology or consent of instructor and Chemistry 101DL. Instructor: Rittschof. One course. C-L: Marine Sciences, Marine Science and Conservation

374LA. Marine Molecular Ecology. NS, R, STS One course. C-L: see Environment 382LA; also C-L: Marine Sciences, Marine Science and Conservation

375A. Biology and Conservation of Sea Turtles. NS, STS Essential biology of sea turtles (evolution, anatomy, physiology, behavior, life history, population dynamics) and their conservation needs; emphasis on their role in marine ecosystem structure and function. Basic ecological concepts integrated with related topics including the conservation and management of endangered species, the contributions of technology to the management of migratory marine species, the role of research in national and international law and policy, and the veterinary aspects of conservation. (Given at Beaufort.) Field trip to Puerto Rico required. Prerequisite: Introductory Biology. Consent of instructor required. Instructor: Piniak. One course. C-L: Environment 375A, Marine Sciences, Marine Science and Conservation

375LA. Biology and Conservation of Sea Turtles. NS, STS Laboratory version of Biology 375A. Includes laboratory and field experience with animals and with their habitat requirements. (Given at Beaufort.) Prerequisite: Introductory Biology. Instructor: Staff. One course. C-L: Environment 375LA, Marine Sciences, Marine Science and Conservation

376A. Marine Mammals. NS, STS The biology of cetaceans, pinnipeds, sirenians, and sea otters. Topics covered include the diversity, evolution, ecology, and behavior of marine mammals and their interactions with humans. Detailed consideration given to the adaptations that allow these mammals to live in the sea. Evaluation of the scientific, ethical, and aesthetic factors influencing societal attitudes toward these animals and of their
conservation management in light of domestic legislation and international treaties. (Given at Beaufort.)

Prerequisite: introductory biology. Instructor: Read or staff. One course. C-L: Environment 376A, Marine Sciences, Marine Science and Conservation

**376LA. Marine Mammals. NS, R, STS** Laboratory version of Biology 376A. Laboratory and field exercises consider social organization, behavior, ecology, communication, and anatomy of local bottlenose dolphins. (Given at Beaufort.) Prerequisite: introductory biology. Instructor: Read or staff. One course. C-L: Environment 376LA, Marine Sciences, Marine Science and Conservation

**377LA. Marine Invertebrate Zoology. NS, R** Structure, function, and development of invertebrates collected from estuarine and marine habitats. Not open to students who have taken Biology 777LA. One course (fall, spring, and Summer Term II); one and one-half courses (Summer Term I). (Given at Beaufort fall, spring, and summer.) Prerequisite: AP Biology or introductory biology or consent of instructor. Instructor: Kirby-Smith or staff. Variable credit. C-L: Environment 377LA, Marine Sciences, Marine Science and Conservation

**378LA. Marine Ichthyology. NS, STS** Overview of the bony and cartilaginous fishes, including their taxonomy, anatomy, functional morphology, and physiology. Aspects of their relationship with humans, specifically how fish biology and life history affect this relationship. Lectures and discussion of current scientific literature, and field/lab experiences to explore and collect data on local fish populations. Quantitative genetic techniques to explore fish population and community structure. (Given at Beaufort.) Prerequisite: AP Biology or introductory biology or consent of instructor. Instructor: Nowacek. One course. C-L: Environment 378LA, Marine Sciences, Marine Science and Conservation

**379LA. Research Methods in Marine Science. NS, R, W** Introduction to research methods in the marine sciences through lectures and customized individual independent research. Lectures on all aspects of research including ethics, intellectual property, budgeting, laboratory and reporting practices, data analysis techniques, reporting and presenting. Draft manuscript and proposal for future research and travel to meeting required. (Given at Beaufort, summer) Prerequisite: AP Biology or Introductory biology and permission of instructor. Instructor: Staff. One course. C-L: Environment 379LA, Marine Sciences, Marine Science and Conservation

**380LA. Marine Molecular Microbiology. NS** One course. C-L: see Environment 383LA; also C-L: Marine Sciences, Marine Science and Conservation

**390A. Duke-Administered Study Abroad: Advanced Special Topics in Biology.** Topics differ by section. Instructor: Staff. One course.

**410S. Advanced Approaches to Genome Science Research. NS, QS, STS, W** Exploration of current experimental and computational approaches in genomics and genetics and their applications to contemporary research questions. Formulation and design of interdisciplinary research plans with discussion of implications for biology, medicine and society. Utilizing primary scientific literature, students write critical reviews and research proposals. Prerequisite: Biology 201L or 210FS, 220 or 413L, or consent of instructor. Recommended co- or prerequisite: independent study in genomics or computational biology. Instructor: Willard. One course. C-L: Genome Sciences and Policy

**411S. Molecular Genetic Analysis. NS** Seminar course designed to help students understand research talks by working scientists, such as those presented in the Developmental Biology Colloquium and the UPGG and CMB seminar series at Duke. Read and discuss research papers that use the yeast, C. elegans, and Drosophila genetic model systems to study cellular processes at the molecular level. Topics will include forward and reverse genetic screen strategies, gene manipulation and expression analysis, somatic mosaics and transgenics. Prerequisites: Biology 201L and 202L, or equivalent molecular genetics course. Instructor: Bejsovec. One course.

**412S. Sensory Signal Transduction. NS, R** Recent progress in sensory signal transduction mediated by calcium channels and receptors. Topics include history and techniques in the study of ion channels, such as electrophysiology, calcium imaging, and cell and molecular biology; cell surface perception for external
signals, including light receptors, olfactory receptors, taste receptors, hot and cold receptors, and mechanical receptors; heart and brain pacemakers; sensory channel receptor-related human diseases; and plan sensory signaling network. Instructor: Pei. One course.

413L. Genomics Laboratory. NS, R, STS Introduction to the field of genomics. Genomic techniques including genome sequencing, microarray analysis, proteomics, and bioinformatics; applications of genomics to understanding biological problems including biological networks, human origins, evolution; applications to medicine and agriculture. Computer-based research lab with participation in collaborative bioinformatics projects. Prerequisites: Biology 201L or consent of instructor. Instructor: Spana. One course. C-L: Genome Sciences and Policy

414LS. Experiments in Developmental and Molecular Genetics. NS, R Experimental approaches in development and genetics using animal and plant models. Laboratory training in molecular genetics, immunochemistry, microscopy, protein chemistry, and genetic screening. Experiments include immunochemical localization, in situ hybridization, polymerase chain reaction, genetic screening, embryo micromanipulation, microscopic imaging, and mutant analysis. Prerequisite: Biology 201L or 202L; recommended, prior or concurrent registration in Biology 220. Instructor: Spana. One course.

415S. Developmental and Stem Cell Biology Colloquium. NS Lectures, seminars, and discussion of current topics in developmental biology. Prerequisites: Biology 201L or 202L and/or 220 or equivalent. Instructor: Sherwood. One course.

416S. Systems Biology Colloquium. NS Lectures, seminars, and discussion of current topics in systems biology. Introduction to both experimental and quantitative approaches to understanding the function of biological networks. Weekly lectures by experts in the field. Instructor: Haase. One course. C-L: Modeling Biological Systems

417S. Genetic Engineering and Biotechnology. NS, STS Applications of recombinant DNA in medicine and in agriculture. Topics include diagnosis of genetic diseases, gene therapy, drugs for AIDS and cancer, DNA fingerprinting, cloning of mammals, phytoremediation, crop improvement, and pharmaceutical protein production in transgenic plants and animals. Social and environmental impacts of biotechnology. Prerequisites: Biology 201L. Recommended: Biology 220 or lab experience or consent of instructor. Instructor: Sun. One course. C-L: Genome Sciences and Policy

418. Biophysics in Cellular and Developmental Biology. NS One course. C-L: see Physics 414; also C-L: Modeling Biological Systems

420. Cancer Genetics. NS, R Overview of the genetic changes associated with cancer and the molecular events that transform normal cellular processes into tumor-promoting conditions. Topics include: tumor viruses, oncogenes, growth factors, signal transduction pathways, tumor suppressors, cell cycle control, apoptosis, stem cells, and metastasis. Prerequisites: Biology 201L and 202L. Recommended: Biology 220. Instructor: Bejsovec. One course.

421S. Biology of Nervous System Diseases. NS Primary literature investigating the underlying molecular and cellular mechanisms of nervous system disorders such as neurodegenerative diseases (Alzheimer's, Parkinson's, Huntington's), mental illness, and epilepsy. Prerequisite: Neuroscience 201 or 223 or Biology 220 or consent of instructor. Instructor: Sherwood, Nina. One course. C-L: Neuroscience 421S, Psychology 477S

422. Neural Circuits and Behavior. NS Perception and behavior at the level of single neurons and neural circuits. Operation of neural circuits, and experimental and theoretical approaches used to unravel them. Progress from sensory systems (how sensory stimuli are represented) to motor systems (how behavioral output is controlled) to "decision-making circuits" in the brain. A range of model systems including electric fish, songbirds, squids, fruitfly, c. elegans, mice, primates etc. Design principles and constraints that have shaped the nervous system during evolution will be discussed. Prereq: Bio 101L or Bio 102L and one course in Neurosciences. Instructor: Bhandawat. One course. C-L: Neuroscience 422
427S. Current Topics in Sensory Biology. NS Exploration of recent and classic studies in sensory biology. Actual topics are chosen by students at the start of the semester. Usually includes vision, hearing, smell, taste, pheromones, electrorreception, magnetoreception, bioluminescence, touch, time, and music. Prerequisites: Bio 25L, or Bio 101L and 102L, or the equivalent, and one course in Neuroscience, or consent of instructor. Instructor: Johnsen. One course. C-L: Neuroscience 427S

430S. Advanced Anatomy. NS For students with prior course work in vertebrate (incl. human or primate) anatomy who wish to pursue study of selected topics in greater detail. Focus on integrating anatomy with physiology, biomechanics, development, evolution and/or clinical aspects. Potential topics include cardiac structure, function, and disease; developmental basis of craniofacial form; muscle function at cell, tissue and whole animal levels; use of animal models in the design of robotics; reproductive anatomy and physiology; functional morphology of feeding or locomotion; integrated studies of bone and skeletal tissue function. Prereqs: previous course work in anatomy or related field, instructor consent required. Instructor: Smith. One course.

431S. Human Embryology. NS, STS The development of the mammalian embryo. Emphasis on human embryology, the origin of major human teratologies, birth defects, ethical and social issues of reproductive biology, aspects of comparative vertebrate development. The evolution of developmental patterns, and the molecular mechanisms of development. Prerequisites: Biology 330L or 414LS or Evolutionary Anthropology 333L or equivalent. Permission of instructor required. Instructor: Smith and Wall. One course. C-L: Evolutionary Anthropology 431S

452S. Genes & Development. NS Literature-based seminar covering transcriptional regulation of development. Regulatory mechanisms and genome-wide approaches will be covered. Topics: embryogenesis, stem cells, transcription factors, regulatory networks, chromatin, nuclear organization, small RNAs, imprinting and Pol II pausing. Prerequisites: BIO 118 or BIO 101L. Instructor: Baugh. One course.

453S. Gene-Environment Interaction: Genes in an Ecological Context. NS Seminar on genotype-environment interaction. Topics include the evolution and adaptive value of environment-dependent phenotypes (phenotypic plasticity), ecological consequences of genotype-environment interaction, molecular mechanisms of phenotypic plasticity, and how genotype-environment interaction pertains to outstanding debates in evolutionary biology and genetics. Pre-requisites: Bio 102L. Instructor: Donohue. One course.

462S. Ecology and Evolutionary Biology Colloquium. NS Lectures, seminars, and discussion of current research in ecology and evolution. Guest lectures will focus on research at Duke. Intended for advanced undergraduates. Prerequisites: Biology 202L and one course in ecology. Instructor: J. Noor. One course.

490. Topics in Biology. NS Lecture course on selected topic. Offerings vary each semester. Instructor: Staff. One course.

490S. Special Topics Seminar. NS Seminar on a selected topic. Offerings vary each semester. Instructor: Staff. One course.

490T. Tutorial. For junior and senior majors with consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course. C-L: Marine Sciences

490T-1. Tutorial. For junior and senior majors with consent of director of undergraduate studies and supervising instructor. Instructor: Staff. Half course. C-L: Marine Sciences

490TA. Tutorial (Topics). For junior and senior majors with consent of Director of Undergraduate Studies and supervising instructor. Taught only in the Beaufort Marine Lab program. Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation


493. Research Independent Study. R Continuation of Biology 293. Individual research and reading of the primary literature in a field of special interest, under the supervision of a faculty member, the major product
of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to juniors and seniors only with consent of supervising instructor. Prerequisites: Biology 293 or Biology 379LA. May be repeated. Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation

493A. Research Independent Study. Continuation of Biology 293A. Individual research and reading of the primary literature in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to juniors and seniors only with consent of supervising instructor. Taught only in the Beaufort Marine Lab program. Pre-requisites: BIO 293A or BIO 379LA. May be repeated. Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation

495. Writing in Biology. W Conventions of scientific writing, focusing on the process of writing a thesis or other major research paper in the biological sciences. Course intended for all candidates for Graduation with Distinction in Biology. Instructor: Reynolds, JA. One course.

515. Principles of Immunology. NS, R One course. C-L: see Immunology 544


517S. From Neurons to Development: The Role of Epigenetics in Plasticity. NS Readings and discussion of current literature on epigenetics and plasticity. A comparative look at epigenetic factors in mediating plasticity in biological systems from neuronal learning to development and aging. Prerequisites: Biology 201L and Psychology 106. Instructor: Volkmar. One course. C-L: Neuroscience 517S

521S. Visual Processing. NS Focus on understanding how visual systems adapt to an animal's requirement. About a third of the course will focus on understanding the evolutionary processes that shape the visual system. The remaining 2/3 will focus on understanding the neural processes underlying vision. A comparative approach--comparing invertebrate vs. vertebrate vision will be used to highlight different ways in which visual information is processed. Introduction of methods used to study vision (and brain function) from "single molecules to whole organism." Prereq: Biology 201L or 202L and one course in Neurosciences. Instructor: Bhandawat. One course. C-L: Neuroscience 521S


540L. Mycology. NS Survey of the major groups of fungi with emphasis on life history and systematics. Field and laboratory exercises. Instructor: Vilgalys. One course.

546S. Biology of Mammals. NS The biology of mammals: diversity, evolutionary history, morphology, and aspects of physiology and ecology. Local field trips. Prerequisite: Biology 20 or 202L or equivalent. Instructor: Roth. One course.

547L. Entomology. NS The biology of insects: diversity, development, physiology, and ecology. Field trips. Prerequisite: Biology 20 or 202L or equivalent. Instructor: H. Nijhout. One course.

548L. Herpetology. NS, R Biology of recent amphibians and non-avian reptiles, evolutionary history, morphology, life history, physiology, behavior, and ecology. Local field trips. Prerequisites: Biology 20 or equivalent. Instructor: Leal. One course.

554. Genomic Perspectives on Human Evolution. NS, R, STS, W Human evolutionary history as studied from the perspective of the genome. Nature of contemporary genomic data and how they are interpreted in the context of the fossil record, comparative anatomy, psychology, and cultural studies. Examination of both the
origin of modern humans as a distinct species and subsequent migration across the world. Emphasis on language, behavior, and disease susceptibility as traits of particular evolutionary interest. Prerequisite: Biology 201L and 202L or equivalent course. Instructor: Wray. One course. C-L: Evolutionary Anthropology 514, Genome Sciences and Policy

555S. Problems in the Philosophy of Biology. NS, STS One course. C-L: see Philosophy 634S

556. Systematic Biology. NS Theory and practice of identification, species discovery, phylogeny reconstruction, classification, and nomenclature. Prerequisite: Biology 102L or equivalent. Instructor: Lutzoni. One course.

556L. Systematic Biology. NS Laboratory version of Biology 556. Theory and practice of identification, species discovery, phylogeny reconstruction, classification, and nomenclature. Prerequisite: Biology 202L or equivalent. Instructors: Lutzoni and Swofford. One course.

557L. Microbial Ecology and Evolution. NS, R Survey of new advances in the field of environmental and evolutionary microbiology, based on current literature, discussion, and laboratory exercises. Topics to include bacterial phylogeny, molecular ecology, emerging infectious diseases, bacterial symbiosis, experimental evolution, evolution of drug resistance, and microbial genomics. Prerequisite: Biology 20 or 212L or 201L or 202L. Instructor: Vilgalys. One course.

559S. Foundations of Behavioral Ecology. NS Readings on behavioral ecology, both historical papers and papers from the current literature that represent the most vital areas of research in the discipline. Instructors: Alberts. One course.

560. Ecology and Global Change. NS, R, STS Feedbacks between ecological processes and global environmental change; physiological and ecosystem ecology using a variety of sources, including the primary scientific literature. Topics include global warming, biodiversity, land-use change, ozone depletion, and the application of ecological research to policy. Prerequisite: Recommended: One course in ecology. Instructor: Jackson. One course.

561D. Tropical Ecology. NS, STS One course. C-L: see Environment 517D; also C-L: Latin American Studies

564. Biogeochemistry. NS, STS Processes controlling the circulation of carbon and biochemical elements in natural ecosystems and at the global level, with emphasis on soil and surficial processes. Topics include human impact on and social consequences of greenhouse gases, ozone, and heavy metals in the environment. Prerequisite: Chemistry 101DL or equivalent; Recommended: Chemistry 210DL. Instructor: Bernhardt. One course. C-L: Environment 564

565L. Biodiversity Science and Application. NS, R Processes responsible for natural biodiversity from populations to the globe. Topics include species interactions (e.g., competition, predation, parasitism), natural and human disturbance, climate change, and implications for management and conservation. Lab section involving observation and data from large-scale manipulations, such as experimental hurricanes, fire, and herbivore exclosures. Instructors: Clark and Wright. One course. C-L: Environment 575L

567S. Genetic Basis of Behavior. NS The relationship between genotype and behavioral phenotype. Readings from the primary literature, including papers on humans, lab mice, and wild animal populations. Exploration of two philosophical topics: the question of causality in the natural world and the question of determinism in biology. Short research paper required. Instructor: Alberts. One course. C-L: Genome Sciences and Policy

570LA-1. Experimental Tropical Marine Ecology. NS, R Distribution and density of marine and semi-terrestrial tropical invertebrate populations; behavioral and mechanical adaptations to physical stress, competition, and predation using rapid empirical approaches and hypothesis testing. Offered only at Beaufort, with preparation for fieldwork before and analysis and presentation of projects after required one week intensive field experience on the coast of Panama. Consent of instructor required. Instructor: Diaz. Half course. C-L: Marine Sciences
570LA-2. Marine Ecology of the Pacific Coast of California. NS, STS Ecology of the rocky intertidal, kelp forest, and mud flat habitats. Introduction to marine mammals, fish and other large West Coast vertebrates. Offered only at Beaufort, with preparation for fieldwork before and analysis and presentation of projects after required one week intensive field experience on the coast of Northern California. Prerequisite: Concurrent registration in Biology 273LA and consent of instructor. Instructor: Staff. Half course. C-L: Marine Sciences

570LA-3. Harmony in Brittany: French Use of Marine Environments. NS, STS Intensive field experience on the coast of Brittany, including French maritime cultural heritage, regional and national coastal reserves (Le Parc naturel régional d'Armorique; Presqu'île de Crozon), shellfish aquaculture (La Tremblade), seaweed harvest (Lanildut), and tidal energy (La Rance). Offered only in Beaufort, with preparation for fieldwork before and analysis and presentation of projects after required one week intensive field experience on the coast of France over Fall Break. Prerequisites: AP Biology or introductory biology and consent of instructor. Instructor: Van Dover. Half course. C-L: Marine Sciences


588S. Macroevolution. NS Evolutionary patterns and processes at and above the species level; species concepts, speciation, diversification, extinction, ontogeny and phylogeny, rates of evolution, and alternative explanations for adaptation and evolutionary trends. Prerequisite: Biology 202L or equivalent. Recommended: one course in plant or animal diversity and one course in evolution beyond 102L. Instructor: Roth. One course. C-L: Evolutionary Anthropology 588S

590. Topics in Biology. NS Lecture course on selected topic. Offerings vary each semester. Instructor: Staff. One course.

590S. Seminar (Topics). NS Seminar on a selected Topic. Offerings vary each semester. Instructor: Staff. One course.

605S. Modeling biological systems using Matlab. NS, QS Introduction to Matlab programming and numerical methods for biological systems. Implementation of models for ecological and evolutionary dynamics and cellular and molecular dynamics. Topics covered include basic programming fundamentals (for/ while/if statements), data input/output, data structures, numerical simulations of deterministic and stochastic systems. Includes a final project, decided upon by the student. Prerequisites: Bio 201L and 202L, or the equivalent, or consent of the instructor. Instructor: Koelle. One course.

650. Molecular Population Genetics. NS Genetic mechanisms of evolutionary change at the DNA sequence level. Models of nucleotide and amino acid substitution; linkage disequilibrium and joint evolution of multiple loci; analysis of evolutionary processes, including neutrality, adaptive selection, and hitchhiking; hypothesis testing in molecular evolution; estimation of evolutionary parameters; case histories of molecular evolution. For graduate students and undergraduates with interests in genetics, evolution, or mathematics. Instructor: Uyenoyama. One course.

651S. Speciation. NS Experimental and phylogenetic approaches to the origin of plant and animal species. Emphasis on current literature and modern approaches to evolutionary patterns and processes. Prerequisites: basic courses in systematics and genetics. Instructors: Noor and Willis. One course.

652S. The Life and Work of Darwin. NS Readings by and about Darwin and his contemporaries, especially Wallace. Darwin's "Autobiography" and Janet Browne's biography as context for readings of some of his major works and works of his contemporaries. Consent of instructor required. Instructors: Alberts and McShea. One course.

665L. Models for Environmental Data. NS Formulation of environmental models and applications to data. Topics include physiology, population growth, species interactions, disturbance, and ecosystem dynamics.

668. Population Ecology. NS Key questions in population ecology from a theoretical perspective. Topics include demography and dynamics of structured populations, population regulation, stochastic and spatial population dynamics, life history characteristics, species interactions, and conservation of threatened populations. Computer labs will emphasize fitting models to data. Prerequisites: One course in Ecology. Instructor: Staff. One course.


THE MAJOR

The Bachelor of Arts and the Bachelor of Science degrees are offered with a major in biology or in an individually designed interdepartmental concentration approved by the director of undergraduate studies in biology. Information may be obtained in the office of the director of undergraduate studies.

For the A.B. Degree

This degree program is the general liberal arts major program. Students contemplating a career in biological or biomedical sciences should elect the program leading to the B.S. degree. A minimum of thirteen courses is required for this major.

Prerequisites: Chemistry 101DL or equivalent.

Corequisites: Mathematics 105L and 106L, or equivalent.

Major Requirements. Two gateway courses: one in molecular biology (Biology 201L) and one in genetics and evolution (Biology 202L). These courses, which may be taken in any order, are prerequisites to many of the advanced courses in these subject areas. In addition to the gateway courses, a minimum of eight full courses in at least eight course registrations in the Biological Sciences, not including the above corequisites or courses specified not for science majors; two of these courses must include related laboratory experience at the 200-level or above; one laboratory independent study course may be counted toward the laboratory requirement. The eight courses must include one course in structure and function (chosen from a list of approved courses), one course in organismal diversity (chosen from a list of approved courses), and one course in ecology (chosen from a list of approved courses). The remaining courses may be elected from among courses numbered 200 or above in Biology; or from approved courses in the basic science departments of the School of Medicine; or from approved courses of a basic biological character in related departments. Six of these eight courses must be in Biology. A maximum of two independent study or tutorial courses may be counted toward the eight course minimum. At least one of these eight courses must be an advanced course at the 400-level or above in biology. This requirement may not be satisfied by a first semester of an independent study but may be satisfied by a second semester continuation of an independent study. The elective courses acceptable for a biology major with an area of concentration (see below) are defined by the requirements for that concentration.

For the B.S. Degree

This is the program in biology for students contemplating a career in biological or biomedical sciences. A minimum of fifteen courses is required for this major.

Prerequisites: Chemistry 101DL or equivalent.

Corequisites: Chemistry 201DL; Mathematics 21 or 111L, either Calculus II (122, 112L, or 122L) or Statistics 102 or above or Bio 204. Physics 141L or 151L. Additional corequisites may be required for professional schools or particular areas of concentration (see below).
**Major Requirements.** Two gateway courses: one in molecular biology (Biology 201L) and one in genetics and evolution (Biology 202L). These courses, which may be taken in any order, are prerequisites to many of the advanced courses in these subject areas. In addition to the gateways, a minimum of eight full courses in at least eight course registrations in the Biological Sciences, not including the above corequisites or courses specified not for science majors; two of these courses must include related laboratory experience at the 200-level or above; one laboratory independent study course may be counted toward the laboratory requirement. The eight courses must include one course in structure and function (chosen from a list of approved courses), one course in organismal diversity (chosen from a list of approved courses), and one course in ecology (chosen from a list of approved courses). The remaining courses may be elected from among courses numbered 200 or above in Biology; or from approved courses in the basic science departments of the School of Medicine; or from approved courses of a basic biological character in related departments. Six of these eight courses must be in Biology. A maximum of two independent study or tutorial courses may be counted toward the eight course minimum. At least one of these eight courses must be an advanced course at the 400-level in Biology. This requirement may not be satisfied by a first semester of an independent study but may be satisfied by a second semester continuation of an independent study. The elective courses acceptable for a biology major with an area of concentration (see below) are defined by the requirements for that concentration.

**Areas of Concentration**

Students may elect to complete requirements in specified areas of concentration. Currently available areas of concentration in the biology major are: anatomy, physiology and biomechanics; animal behavior; biochemistry; cell and molecular biology; ecology; evolutionary biology; genetics; genomics; marine biology; neurobiology; pharmacology; and plant biology. For information on areas of concentration see the director of undergraduate studies.

**Departmental Graduation with Distinction**

Biology majors who achieve excellence in both their studies and a research based thesis may apply for Graduation with Distinction in Biology. Students may apply if they have a grade point average of 3.0 or above in Biology courses, not including independent study, at the time of application. The award of distinction requires the maintenance of this grade point average and completion of an original research project, usually carried out as an independent study in biology or as an interdisciplinary study that includes biology. The application for distinction must be endorsed by the student's research supervisor. Distinction will be awarded by a three-member faculty committee based on an oral poster presentation and the written thesis. Two levels of distinction are offered in biology: Distinction and High Distinction. See the director of undergraduate studies for more details.

**THE MINOR**

**Minor Requirements.** Five courses in Biology, which may include the gateway courses, but not including advanced placement credit (Biology 20); the five courses may include any course numbered 200 or above in Biology. A maximum of one course from approved courses in the basic science departments of the School of Medicine or from approved courses of a basic biological character in related departments. A maximum of one independent study or tutorial courses may be counted toward the five courses.

**Biomedical Engineering**

For courses in biomedical engineering, see “Pratt School of Engineering” on page 648.

**Canadian Studies (CANADIAN)**

Professor Moss, *Director*; Professor Kelly, *Associate Director*; Professors Gereffi (sociology), Goodwin (economics), O'Barr (cultural anthropology), Thompson (history), Vidmar (law); Associate Professors Fenn (history), Mayer (public policy studies and political science), Peck (history); Assistant Professor Metzger (English); Professors Emeriti Tiryakian (sociology), and Wood (history); Instructors Ferney and Wittmann

A second major or a minor is available in this program.
The program in Canadian Studies seeks to provide the student with an understanding of Canada. Students may undertake the program to supplement another major, or to complete a second major in Canadian Studies, or as part of an interdepartmental concentration, or under Program II. Canadian Studies may also be an area concentration in the comparative area studies major, described elsewhere in this bulletin. See sections below on the program, the major, and the minor. The courses are described in the departmental and interdisciplinary listings.

89S. First Year Seminar in Canadian Studies. Topics vary each semester offered. Instructor: Staff. One course.


103S. Geography of Canada. CCI, SS A regional geography of Canada; its physical features, topography, climate; the historic economic and social development of the regions; economic and cultural interactions among the regions. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Canadian Studies. Topics differ by section. Instructor: Staff. One course.

250S. Critical Current Issues in North America. CCI, EI, SS, W A survey course on current critical issues impacting North America, examined from a continental perspective. Specific areas of focus: trade, energy, immigration, the environment, continental defense, organized crime and the border. Course theme: to what extent are these challenges amenable to joint action by the three countries? Taught from the perspective of a U.S. diplomat, with emphasis on cross-cultural awareness - how do Mexicans or Canadians look at these issues? - the history of current problems, and workable policy solutions. Specific skills taught include the basics of effective memo writing and delivering compelling, succinct oral briefings. Instructor: Kelly. One course. C-L: Political Science 223S

312. Europe's Colonial Encounter, 1492-1992. CCI, CZ, EI One course. C-L: see History 312; also C-L: African and African American Studies 212, Ethics Courses Offered Through Other Departments

328SA. Made in Quebec: Marketing and Cultural Identity. CCI, FL, R, SS One course. C-L: see French 328SA; also C-L: Markets and Management Studies

350S. The U.S. Border and its Borderlands. CCI, CZ, EI, SS, W Examines the challenges and opportunities of the U.S. border from a geopolitical perspective. Detailed review of how the current U.S. boundaries were set, and how this shapes current attitudes and conflicts. Assessment of various means of border control, including visa issues, border walls and port of entry screening. Cultural and historical comparison of two borderlands, Seattle-Vancouver and San Diego-Tijuana, and the EU experience. Overall course theme: Can the border effectively and ethically screen noxious elements without blocking legitimate and necessary travel and trade. Specific skills taught: policy memo writing and oral briefing strategies. Instructor: Kelly. One course. C-L: Public Policy Studies 216S, Latin American Studies

359S. Canada from the French Settlement. CCI, CZ, R One course. C-L: see History 359S; also C-L: International Comparative Studies

382. Baseball in Global Perspective. CCI, CZ, EI, R, SS One course. C-L: see History 382


390-2S. Special Topics in Canadian Studies. Topics vary each semester offered. Instructor: Staff. One course.

390-3S. Special Topics in Québec Studies. CCI Topics vary each semester offered. Instructor: Staff. One course.

391. Independent Study in Canadian Studies. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member. Consent of Director of Undergraduate Studies and instructor required. Instructor: Staff. One course.

OTHER COURSES

The following courses offered by other departments count as one course in the five required for the minor in Canadian Studies and in the ten required for the major in Canadian Studies. Independent studies may also be arranged with Canadian Studies faculty.

African and African American Studies
410S. Francophone Literature

Asian & Middle Eastern Studies
202S. Francophone Literature

Cultural Anthropology
170. Advertising and Society: Global Perspective

Economics
555S. International Trade
568S. Current Issues in International and Development Economics

French
328SA. Made in Quebec: Marketing and Cultural Identity
356. France's Cultural Legacy in the New World: Quebec
417S. Francophone Literature
422. North of the Border: The Novel in French Canada
714. Migration, Literature, Transnational Writers, and Postnational Literature

History
359S. Canada from the French Settlement
382. Baseball in Global Perspective
387S. Francophone Literature

International Comparative Studies
430S. Francophone Literature
512S. Comparative Party Politics
601S. Comparative Party Politics

Linguistics
170. Advertising and Society: Global Perspective

Political Science
501S. Politics and Media in the United States
522S. Comparative Party Politics

Public Policy Studies
335. Comparative Health Care Systems

Sociology
160. Advertising and Society: Global Perspective
160D. Advertising and Society: Global Perspective
371. Comparative Health Care Systems

Visual and Media Studies
170. Advertising and Society: Global Perspective

THE MAJOR

Prerequisite: Canadian Studies 101.
Corequisite: Completion of another major; two years of college-level French.

Major Requirements. Ten courses with Canadian content, including Canadian Studies 101 and 250S and eight additional courses, seven of which must be at the 200 level or above. Some of the course requirements may be fulfilled by independent study or special readings courses. No more than four courses required for the first major may be counted for a Canadian Studies major. In special cases, an aboriginal or "heritage" language may be substituted for the French requirement.

THE MINOR

Requirements. Five courses with Canadian content; three must be at the 200 level or above; courses must include Interdisciplinary Canadian Studies 101 (Introduction to Canada) and 250S (Canadian Issues in North America). Strong encouragement for equivalent of two years of college-level French.

For further information, contact the director.
Cell Biology

For courses in cell biology, see Biology (on page 179) and Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates (on page 440)

Chemistry (CHEM)

Professor Craig, Chair; Associate Professor MacPhail, Associate Chair and Co-Director of Undergraduate Studies; Professor Bonk, Co-Director of Undergraduate Studies; Lecturer Roy, Associate Director of Undergraduate Studies and Supervisor of First-Year Instruction; Professor Baldwin, Director of Graduate Studies; Professors Baldwin, Beratan, Bonk, Craig, Crumbliss, Fitzgerald, Liu, McCafferty, Therien, Toone, Vo-Dinh, Warren, Widenhoefer, and Yang; Associate Professors Franz, Hong, and MacPhail; Assistant Professors Charbonneau, Wang, and Wiley; Professors Emeriti Arnett, Chesnut, Loehmuller, McPhail, Palmer, Quin, Ramsay-Shaw, Wells, and Wilder; Research Assistant Professors Fischer and Zhang; Secondary Appointments: Professors Chilkoti, Ferguson, Oas, and Reichert; Associate Professors Zauscher and Zhou; Assistant Professor Yokoyama; Senior Lecturing Fellow Woerner; Lecturing Fellow Lyle; Instructors, Canelas, Hyman, and Kasper

A major or minor is available in this department.

20. General Chemistry Credit. Pre-matriculation credit awarded for a score of 4 on the College Board AP chemistry examination (or the equivalent). Recommended placement is Chemistry 110DL, but a student may choose to take Chemistry 101DL without loss of credit. Students completing both Chemistry 101DL and 210DL, or both Chemistry 110DL and 210DL forfeit entrance credit for Chemistry 20. One course.

21. General Chemistry Credit. Pre-matriculation credit awarded for a score of 5 on the College Board AP chemistry examination (or the equivalent). Recommended placement is Chemistry 201DL, but a student may choose to take Chemistry 110DL without loss of credit. Students completing both Chemistry 101DL and 210DL, or both Chemistry 110DL and 210DL forfeit entrance credit for Chemistry 21. One course.

81S. Introduction to Research in Chemistry. EI, NS, R Active participation in chemistry (or chemistry related) research group, accompanied by seminar classes covering research methodologies, case studies of ethical issues in chemistry, and communication of results of research. Prerequisite: Chemistry 101DL, or 110DL, or 20, or 21. Instructor: Staff. One course.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

91. Chemistry, Technology, and Society. NS, STS Science, the scientific method, and background topics from chemistry, biochemistry, and environmental chemistry that enable citizens to utilize the inductive-deductive methodology of science to better evaluate the potential benefits and risks associated with selected existing and proposed technologies. Intended primarily for nonmajors. Instructor: Staff. One course. C-L: Energy and the Environment

99D. Introduction to Chemistry and Chemical Problem Solving. NS Introductory course for students with limited background in chemistry emphasizing chemical problem solving. Topics include atoms, molecules, ions, compounds, and the periodic table, stoichiometry and chemical reactions, reactions in solution, and an introduction to chemical bonding, thermochemistry, and gas laws. To be followed by Chemistry 101DL. Not open to students who have credit for Chemistry 20, 21 or 101DL. Instructor: Staff. One course.

101DL. Core Concepts in Chemistry. NS Emphasizes core concepts required for organic chemistry, including atomic and molecular structure, chemical equilibrium with applications to acids and bases, thermodynamics, chemical kinetics, and reaction mechanisms. Relevance and integrated nature of these concepts illustrated through applications to a modern theme in chemistry, e.g. in biological, materials, or environmental chemistry. Laboratory illustrates experimental applications of these core concepts. Instructor: Staff. One course.

110DL. Honors Chemistry: Core Concepts in Context. NS Emphasizes core concepts required for organic chemistry, including atomic and molecular structure, chemical equilibrium with applications to acids and
bases, thermodynamics, chemical kinetics, and reaction mechanisms. Strong emphasis on applications of these concepts in context of large, interdisciplinary scientific challenge, e.g. in cancer biology or nanoscience. Laboratory illustrates experimental applications of these core concepts. Students may not receive credit for both Chemistry 101DL and 110DL. Instructor: Staff. One course.

150FS. Special Topics in Chemistry. Focus version of Chemistry 93. Instructor: Staff. One course.

180. Chemistry Outreach: Sharing Chemistry with the Community. NS Principles of chemistry outreach with emphasis on chemical demonstrations. Activities include readings, discussion, and practice related to staging effective demonstrations, as well as structured service learning experiences in local schools and other venues. Societal issues relevant to chemistry outreach will be examined, along with assessment and pedagogical strategies. Participation in service learning is required. Prerequisites: Chemistry 101DL, or 110DL, or 20, or 21. Instructor: Lyle. One course.

190A. Duke-Administered Study Abroad: Special Topics in Chemistry. Topics differ by section. Instructor: Staff. One course.

190S. Special Topics in Chemistry. Seminar on special topics in chemistry and chemistry related areas. Content varies by semester. Instructor: Staff. One course.

201DL. Organic Chemistry. NS, STS The structures and reactions of the compounds of carbon and the impact of selected organic compounds on society. Laboratory: techniques of separation, organic reactions and preparations, and systematic identification of compounds by their spectral and chemical properties. Prerequisite: Chemistry 101DL, or 110DL, or 21. Instructor: Staff. One course.

202L. Organic Chemistry. NS, STS Continuation of Chemistry 201DL. Prerequisite: Chemistry 201DL. Instructor: Staff. One course.

210DL. Modern Applications of Chemical Principles. NS Modern applications of chemistry in context of larger scientific theme, e.g. in biology, materials science, or environmental chemistry. Revisits core concepts from Chemistry 101DL or 110DL, incorporating additional topics including intermolecular interactions, phases of matter, solutions, quantitative treatment of aqueous equilibria, electron transfer reactions, and inorganic and coordination chemistry. Laboratory illustrates experimental approaches to modern problems in biological, materials, and environmental chemistry, as well as analytical and synthetic techniques. Prerequisite: Chemistry 101DL or 110DL. Instructor: Staff. One course.

290A. Duke-Administered Study Abroad: Advanced Special Topics in Chemistry. NS, STS Four week course on Chemical Biology and Drug Discovery at Duke-NUS Graduate and Medical School in Singapore. Special topics include the identification of druggable targets, sources of small molecules, including natural product isolation and library screening, animal models of human disease, preclinical medicinal chemistry, including lead optimization and synthetic organic chemistry, toxicology, adsorption distribution metabolism and excretion (ADME), and the regulatory approval process. Excursions to local research facilities, pharmaceutical research centers, and the animal research station at Bintan, Indonesia. Prerequisites: Chemistry 201DL and Chemistry 202L. Recommended Course: Biochemistry 301. Instructor: Toone. One course.

290S. Special Topics In Chemistry. Seminar on special topics in chemistry and chemistry-related areas. Content varies by semester. Consent of department required. Instructor: Staff. One course.

295. Introduction to Research Independent Study. NS, W Includes research methodology, retrieval techniques for, and use of, the chemical literature, safety in the research laboratory, the ethical conduct of research, and writing a research proposal. Co-requisite: registration for a first course in research independent study in chemistry (393) or a related area. Lecture/discussion. Instructor: Bonk. Half course.

301. Elements of Physical Chemistry. NS Survey of physical chemistry including quantum chemistry, molecular structure, molecular spectroscopy, thermodynamics, and kinetics. Prerequisites: Chemistry 210DL; or Chemistry 20 plus 101DL; or Chemistry 20 plus 110DL; or Chemistry 21; Mathematics 112L, and Physics 142L or 152L or 162L or consent of instructor. Instructor: Staff. One course.

Chemistry (CHEM) 201
301L. Physical Chemistry Laboratory. NS, W Laboratory experiments designed to accompany Chemistry 301. Includes instruction and practice in writing the laboratory notebook and formal laboratory reports. Prerequisite: (or corequisite) Chemistry 301. Instructor: Staff. Half course.

302. Biophysical Chemistry. NS The physical chemical principles of and experimental methods employed in the study of biological macromolecules. Prerequisite: Chemistry 301 or 310, or Biochemistry 301 or consent of instructor. Instructor: Staff. One course.

310. Physical Chemistry. NS Fundamentals of physical chemistry. Emphasizes quantum chemistry, molecular structure, and molecular spectroscopy. Chemistry 310L should be taken concurrently with Chemistry 310. Prerequisites: Chemistry 210DL; or Chemistry 20 plus 101DL; or Chemistry 20 plus 110DL; or Chemistry 21; Mathematics 212, Physics 142L, 152L, or 162L or consent of the instructor. Instructor: Staff. One course.

310L. Physical Chemistry I Laboratory. NS, W Laboratory experiments designed to accompany Chemistry 310. Includes instruction and practice in writing the laboratory notebook and formal laboratory reports. Prerequisite: (or corequisite) Chemistry 310. Instructor: Staff. Half course.

311. Physical Chemistry II. NS Continuation of Chemistry 310. Fundamentals of physical chemistry. Emphasizes thermodynamics and kinetics. Chemistry 311L should be taken concurrently with Chemistry 311. Prerequisite: Chemistry 310 or consent of instructor. Instructor: Staff. One course.

311L. Physical Chemistry II Laboratory. NS, W Laboratory experiments designed to accompany Chemistry 311. Prerequisite: (or corequisite). Chemistry 311 or consent of instructor. Instructor: Staff. Half course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. Variable credit.


401. Analytical Chemistry. NS Fundamentals of qualitative and quantitative measurement with emphasis on chemometrics, quantitative spectrometry, electrochemical methods, and common separation techniques. Corequisite: Chemistry 401L. Prerequisite: Chemistry 301L or 310L. Instructor: Staff. One course.

401L. Analytical Chemistry Laboratory. NS Laboratory experiments designed to accompany Chemistry 401. Corequisite: Chemistry 401. Instructor: Staff. Half course.

410. Inorganic Chemistry. NS Bonding, structures, and reactions of inorganic compounds studied through physical chemical concepts. Prerequisite: Chemistry 301 or 311. Instructor: Staff. One course.

420L. Advanced Laboratory Techniques. NS Synthesis of less common substances by techniques such as high or low pressure, high or low temperature, and/or inert atmospheres. Characterization of products from measurements such as electrical conductance, optical rotation, ultraviolet-visible spectra, infrared spectra, and/or mass spectra. Prerequisite: (or corequisite) Chemistry 410. Instructor: Staff. Half course.


496. Graduation with Distinction in Chemistry. Course for majors who are candidates for graduation with distinction in chemistry. Includes preparation of the research thesis, preparation and presentation of a poster describing student's research, and oral defense of the research thesis. Pre- or co-requisite: two semesters of research independent study. Lecture/discussion. Satisfactory/Unsatisfactory grading only. Staff: Instructor. Half course.

502. Spectrochemical Analysis. Advanced topics in spectroscopic analysis, emphasizing absorption, emission, and luminescence techniques and applications to biomolecules. Prerequisite: Chemistry 501 or consent of instructor. Instructor: Staff. Half course.

504. Separation Science. Fundamental separation chemistry, practical aspects of chromatographic methods, larger scale processes. Prerequisite: Chemistry 501 or consent of instructor. Instructor: Staff. Half course.

506. Biomolecular Mass Spectrometry. Advanced topics in the mass spectral characterization of biopolymers with an emphasis on protein and DNA analysis. Fundamental and practical aspects of the ionization processes and the instrumentation associated with MALDI- and ESI-Mass spectrometry discussed along with applications of these techniques to structural problems in chemistry and biochemistry. Prerequisite: Chemistry 501 or consent of instructor. Instructor Fitzgerald. Half course.

511. Biological Chemistry. Chemistry of the major classes of biological molecules, including nucleic acids, amino acids and proteins, carbohydrates and lipids. Topics include structure, reactivity and synthesis, and the interaction of biological molecules. Instructors: Hong, McCafferty, and Toone. One course.


518S. Chemical Biology. The application of chemical concepts and methods to solving problems in molecular and cell biology, with emphasis on the use of small molecules to elucidate and control information transfer in biological systems. Provides relevant background on both useful chemical tools and new biological targets. Instructors: Hong, Toone, McCafferty. One course.


522. Chemical Applications of Group Theory Including Spectroscopy. Topics covered include symmetry, point groups, group theory, character tables, electronic absorption spectroscopy, infrared spectroscopy, Raman spectroscopy, and microwave spectroscopy. Instructors: Fitzgerald, Therien, and Franz. One course.

524. Bioinorganic Chemistry. Topics covered include metal activated enzymes in hydrolysis, oxygen carriers, nitrogen fixation, iron storage and transport, photosynthesis, protein electron transfer, and DNA mediated electron transfer. Instructors: Crumbliss, Therien, and Franz. Variable credit.


531. **Organic Chemistry.** Bonding and structure, stereochemistry, conformational analysis, substitution, addition, and elimination reactions, carbon reactive intermediates, concerted reactions, photochemistry, carbon alkylation, carbonyl addition nucleophilic substitution, electrophilic additions, reduction, cycloadditions, rearrangements, main group organometallics, oxidation. Instructors: Baldwin, Craig, Hong, Toone, and Widenhoefer. One course.

532. **Organic Synthesis.** Synthetic design, retrosynthetic analysis, synthetic methods, total syntheses. Instructors: Baldwin, Hong, and Widenhoefer. One course.

533. **Nuclear Magnetic Resonance.** Structural elucidation of organic and inorganic compounds by NMR. Fundamentals of data acquisition (pulse sequences, detection), multidimensional techniques, study of dynamic processes and their application to the determination of structure. Instructors: Baldwin and Widenhoefer. Variable credit.


536. **Bioorganic Chemistry.** Basic enzymology, mechanisms of enzymatic reactions, cofactors, oxidoreductases, C1 chemistry, carbon-carbon bond formation, carboxylation/decarboxylation, heme, pyridoxal enzymes, thiamine enzymes. Prerequisite: Chemistry 331 or equivalent. Instructor: Toone. One course. C-L: Biochemistry 536


542. **Quantum Mechanics.** Special emphasis on chemical applications. Topics include: linear algebra, the uncertainty relations, angular momentum, perturbation theory, time-dependent phenomena, molecules in electromagnetic fields, group theory, and electron correlation. Prerequisite: Chemistry 541 or consent of instructor. Instructors: Beratan, Liu, MacPhail, and Yang. One course.

543. **Statistical Thermodynamics.** Introduction to statistical thermodynamics, with an emphasis on ideal systems and selected model approaches to more complex systems, for example, lattice models. Instructors: Beratan, Charbonneau, MacPhail, and Yang. Half course.

544. **Statistical Mechanics.** Fundamentals of quantum and classical statistical mechanics using the ensemble approach. Introduction of modern techniques and applications including the renormalization group treatment of phase transitions and linear response theory of time-dependent statistical mechanics. Prerequisite: Chemistry 543 or consent of instructor. Instructors: Beratan, Charbonneau, MacPhail, and Yang. One course.


546. **Biophysical Chemistry.** The interrelationships between structure, function, and mechanisms of biological macromolecules. Principles of dynamics, including kinetics, reactivity and transport, and structure, including thermodynamics, NMR, fluorescence, and CD spectroscopy. Instructors: Beratan, Oas, and Warren. One course.


601. **Biosensors.** Biosensors (GE, IM, MC). Biosensors are defined as the use of biospecific recognition mechanisms in the detection of analyte concentration. The basic principles of protein binding with specific
reference to enzyme-substrate, lectin-sugar, antibody-antigen, and receptor-transmitting binding. Simple surface diffusion and absorption physics at surfaces with particular attention paid to surface binding phenomena. Optical, electrochemical, gravimetric, and thermal transduction mechanisms which form the basis of the sensor design. Prerequisites: Biomedical Engineering 83L and 100L or their equivalent and consent of instructor. Instructors: Reichert or Vo-dinh. One course.

For the A.B. Degree

**Prerequisites.** Chemistry 101DL or 110DL or 21; Mathematics 111L-112L, or 122L; Physics 141L-142L or 151L-152L, or 161L-162L.

**Major Requirements.** Chemistry 201DL, 202L, 210DL or 20 or 21, 301and 301L, or 310 and 310L and 311, 401, 401L plus one of the following three course options:
1. Three of the following: Chemistry 302, 410, any 500 or 600 level courses; Biochemistry 301, 302.
2. One of the following: Chemistry 302 or 311, 410, any 500 or 600 level courses; Biochemistry 301 plus Chemistry 393 and 394 or the equivalent in an approved chemistry-related discipline.
3. One of the following:
   a. Physics emphasis. Chemistry 302 or 311; plus two of the following: Physics 264L, 361, 362. Physics 143L, Physics 181, Physics 182.
   b. Mathematics emphasis. Chemistry 302 or 311; plus either of the following pairs of courses: Mathematics 221 and Mathematics 356, or Mathematics 216 and Mathematics 353.

In certain cases, substitutions may be made for courses outside the chemistry department with consent of the director of undergraduate studies.

For the B.S. Degree

**Prerequisites.** Chemistry 101DL or 110DL or 21; Mathematics 111L-112L, or 122L, 212; Physics 141L-142L or 151L-152L, or 161L-162L.

**Major Requirements.** Chemistry 201DL, 202L, 210DL or 20 or 21, 310, 310L, 311, 311L, 393 (or its equivalent in an approved chemistry-related discipline), 401, 401L, 410, 420L; plus two additional courses selected from the following: Biochemistry 301\*; Chemistry 302, 394\* (or its equivalent in an approved chemistry-related discipline), and any Chemistry courses at the 500 or 600 level.

The Concentration in Biochemistry

In cooperation with the Department of Biochemistry in the School of Medicine, the Chemistry Department offers both an A.B. and a B.S. degree in chemistry with concentration in biochemistry. Certification of this concentration is designated on the official transcript.

For the A.B. Degree with Concentration in Biochemistry

**Prerequisites.** Chemistry 101DL or 110DL or 21; Mathematics 111L-112L, or 122L; Physics 141L-142L or 151L-152L, or 161L-162L; Biology 201L.

**Major Requirements.** Chemistry 201DL, 202L, 210DL or 20 or 21, 301and 301L, or 310 and 310L and 311, 401, 401L; Biochemistry 301, 302; plus one of the following: (Chemistry 393, Biology 293, or Biochemistry 593).

* Certification of the BS degree by the American Chemical Society requires Biochemistry 301, Chemistry 394, plus Chemistry 295.
For the B.S. Degree with Concentration in Biochemistry

Prerequisites. Chemistry 101DL or 110DL or 21; Mathematics 111L-112L, or 122L; Physics 141L-142L or 151L-152L, or 161L-162L; Biology 201L.

Major Requirements. Chemistry 201DL, 202L, 210DL or 20 or 21, 301 and 301L and 302, or 310 and 310L and 311, 401, 401L, 410; Biochemistry 301, 302; Biology 220; plus one of the following: (Chemistry 393, Biology 293, or Biochemistry 593).

The Concentration in Pharmacology

In conjunction with the Department of Pharmacology in the Duke Medical Center, the Chemistry Department offers both an A.B. and a B.S. degree in chemistry with a Concentration in Pharmacology. Certification of the concentration is designated on the official transcript.

For the A.B. Degree with Concentration in Pharmacology

Prerequisites. Chemistry 101DL or 110DL or 21; Mathematics 111L-112L, or 122L; Physics 141L-142L or 151L-152L, or 161L-162L; Biology 201L.

Major requirements: Chemistry 201DL, 202L, 210DL or 20 or 21, 301 and 301L and 302, or 310 and 310L and 311, 401, 401L, 410; Biochemistry 301; Pharmacology 350 and 360; plus 2 semesters of independent study involving some aspect of pharmacology (Chemistry 393, 394 or Pharmacology 493, 494).

For the B.S. Degree with Concentration in Pharmacology

Prerequisites. Chemistry 101DL or 110DL or 21; Mathematics 111L-112L, or 122L; Physics 141L-142L or 151L-152L, or 161L-162L; Biology 201L.

Major Requirements. Chemistry 201DL, 202L, 210DL or 20 or 21, 301 and 301L and 302, or 310 and 310L and 311, 401, 401L, 410; Biochemistry 301; Pharmacology 350 and 360; plus 2 semesters of independent study involving some aspect of pharmacology (Chemistry 393, 394 or Pharmacology 493, 494).

The Concentration in Environmental Chemistry

In conjunction with the School for the Environment of Duke University, the Chemistry Department is pleased to offer both an A.B. and a B.S. degree in Chemistry with Concentration in Environmental Chemistry. Official recognition of the completion of the requirements given below will appear on the permanent transcript of a major.

For the A.B. Degree with Concentration in Environmental Chemistry

Prerequisites. Chemistry 101DL or 110DL or 21; Mathematics 111L-112L, or 122L; Physics 141L-142L or 151L-152L, or 161L-162L; Biology 201L.

Major Requirements. Chemistry 201DL, 202L, 210DL or 20 or 21, 301 and 301L and 302, or 310 and 310L and 311, 401, 401L; Environment 360 or Civil Engineering 461L; plus two of the following: Environment 239, 540, 542; plus one semester of independent study involving some aspect of environmental chemistry (Chemistry 393 or Environment 393 or Civil Engineering 391).

For the B.S. Degree in Chemistry with Concentration in Environmental Chemistry

Prerequisites. Chemistry 101DL or 110DL or 21; Mathematics 111L-112L, or 122L; Physics 141L-142L or 151L-152L, or 161L-162L; Biology 201L.

Major Requirements. Chemistry 201DL, 202L, 210DL or 20 or 21, 301 and 301L and 302, or 310 and 310L and 311, 401, 401L; Environment 360 or Civil Engineering 461L; plus two of the following: Environment 239, 540, 542; plus one semester of independent study involving some aspect of environmental chemistry (Chemistry 393 or Environment 393 or Civil Engineering 391).

Departmental Graduation with Distinction

The department offers a program for Graduation with Distinction in Chemistry. Selection for the honor by the Chemistry Department Undergraduate Awards Committee is based on fulfilling the following requirements: at least a B average in chemistry courses at the time of application and at graduation, satisfactory completion of at least two courses of research independent study in chemistry (or in an approved chemistry-

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related area), enrollment and participation in Chemistry 295 (Introduction to Research Independent Study) and Chemistry 496 (Graduation with Distinction in Chemistry), submission of a high quality research thesis based upon the results of independent study, nomination for the honor by the research advisor, presentation of a poster on the research project, and an oral defense of the research thesis.

THE MINOR

Requirements. Chemistry 101DL or 110DL or 21; plus four additional courses selected from the following: Chemistry 180, 201DL, 202L, 210DL or 20, Chemistry courses numbered above 210; Biochemistry 301, 302; Biology 372A; Environment 540, 542; Pharmacology 350, 360, 533.

In certain cases, substitutions may be made for courses outside the chemistry department with the consent of the director of undergraduate studies.

Children in Contemporary Society (CCS)

Assistant Research Professor Muschkin, Director

A certificate, but not a major, is available in this program.

The goal of the certificate in Children in Contemporary Society is to provide undergraduates with the opportunity to engage in interdisciplinary inquiry to solve problems facing today's children and families. Because of the complexity of these problems, the certificate will allow students the opportunity to study issues by incorporating the perspectives of numerous disciplines, including psychology, sociology, public policy, economics, and education. The certificate emphasizes engagement in empirical research; each student will work closely with a faculty member to produce an original, scholarly research paper. Examples of topics that could be pursued with this certificate include: social and economic inequalities in schooling, the pervasiveness of gang violence in high schools, or the long-term consequences of childhood obesity. The certificate program culminates in a capstone seminar, in which students build upon the research experience by exploring real-world implications and translating their scholarship to policy solutions.

CERTIFICATE REQUIREMENTS

In order to complete the certificate, students must take six courses: the cornerstone course Children in Contemporary Society 250S, the capstone course Children in Contemporary Society 495S, two electives, one research course, and one methods course. The research course is an independent study: students may register for Children in Contemporary Society 350S or for an independent study in public policy or another department. The research course requirement also may be fulfilled through completion of an honors thesis in the student's home department. The methods course can either be Multi-Method Approaches to Social and Policy Research (cross-listed as Public Policy 241 and Children in Contemporary Society 241) or a methods course in the student's home department. Both the research course and the methods course must be approved by the program director. The two electives may be drawn from a list of pre-approved electives. No more than two courses that are counted toward this certificate may also be used to satisfy the requirements of any major, minor, or other certificate program. In addition, no more than three of the courses that count toward the certificate may originate in a single department or program. More information is available at http://childandfamilypolicy.duke.edu/teaching/ccscertprogram.php.

89S. First-Year Seminar. SS Topics vary each semester offered. Open only to first year students. Instructor: Staff. One course.


250S. Children in Contemporary Society. R, SS Major developmental stages of childhood and influences in a child's life: parents/family life, schools, communities, the economy Emphasis on 1) applying of theory for analyzing complex societal problems (often involving issues of race, class, and gender; 2) using material and methodologies from psychology, sociology, economics, and public policy. Required course for certificate
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program Children in Contemporary Society, but open to all undergraduate students. One course. C-L: Public Policy Studies 242S

290. Selected Children in Contemporary Society Topics. R, SS Topics vary but pertain to the development and social and economic well-being of children and their families. Interdisciplinary in nature and drawing material from disciplines such as sociology, psychology, public policy, economics, and education. An elective course for students pursuing Children in Contemporary Society certificate. Instructor: Staff. One course.


393. Research Independent Study. R, SS Individual research on a topic of special interest under the supervision of a faculty member, the central goal of which is a substantive paper containing significant analysis and interpretation. Consent of instructor and director of the Children in Contemporary Society certificate program required. Instructor: Staff. One course.

495S. Multidisciplinary Approaches to Contemporary Children's Issues. R, SS An integrative, multi-disciplinary study of the psychological, social, and political factors that affect American children and families. Specific topics to be determined by students and instructor, for example, the behavioral and economic consequences of juvenile delinquency; the implications of different family structures on infants, children, and adolescents; or the civic and social responsibilities of public education. Individual and group research projects required. Capstone course required for the Children in Contemporary Society certificate program. Consent of Director of that certificate program required. Instructor: Rosch or staff. One course.

590. Advanced Children in Contemporary Society Topics. SS Topics vary but pertain to the development and social and economic well-being of children and their families. Interdisciplinary in nature and drawing material from disciplines such as sociology, psychology, public policy, economics, and education. An elective course for students pursuing Children in Contemporary Society certificate. Instructor: Staff. One course.

590S. Advanced Children in Contemporary Society Seminar Topics. SS Seminar version of Children in Contemporary Society 590. Instructor: Staff. One course.

634S. Making Social Policy. R, SS One course. C-L: see Public Policy Studies 563S; also C-L: Sociology 634S

ELECTIVES
Students will choose two electives from the following list of pre-approved courses. If a student wishes to take a course for Certificate credit that is not on the pre-approved list, then the Certificate director will decide on the appropriateness of that course on a case-by-case basis.

Regularly Scheduled Courses
African and African American Studies
246. Comparative Race and Ethnic Studies
248. Psychology of Ethnicity and Context (D)
381. Urban Education

Education
237. Contemporary Issues In Education
240. Educational Psychology (C, D)
243S. Children, Schools, and Society
321S. Infancy, Early Childhood, and Educational Programs
325S. Unrecognized Talent: Minority Children and Gifted Education
347. Urban Education

Linguistics
336S. Issues in Language Development (C, D)

Psychology
207. Child Clinical Psychology (D, P)
237. Social Development (D,S)
238. Psychology of Ethnicity and Context (D)
239. Adolescence (D)
240. Educational Psychology (C, D)
Chinese

For courses in Chinese, see “CHINESE (CHINESE)” on page 172, under "Asian and Middle Eastern Studies."

Civil and Environmental Engineering

For courses in civil and environmental engineering, see “Pratt School of Engineering” on page 648.

Classical Studies (CLST)

Professor Antonaccio, Chair; Professor Janan, Director of Undergraduate Studies; Professors Antonaccio, Boatwright, Burian, Janan, and Johnson; Associate Professors Sosin and Woods; Assistant Professors Atkins and González; Professors Emeriti Clay, Davis, Newton, Richardson, Rigsby, and Stanley

A major or a minor is available in this department.

The objective of classical studies is to increase knowledge and understanding of the civilizations of Greece and Rome, part of the roots of Western culture. Toward this aim, the department offers courses in three areas (Latin, Greek, and classical studies) and two majors (classical languages, classical civilization). Concentration in the languages offers students opportunities to explore at first hand the literature, history, and thought of antiquity. In the process of learning Greek and/or Latin, students will gain a deeper insight into language itself, as well as an appreciation of the problems of interpretation and the varieties of evidence upon which interpretation may be based. For students interested in history, ancient art, or archaeology, courses in classical civilization offer a means of assessing the culture and the material remains of Greece and Rome in their own rich and varied context.

Students considering careers not in classical studies or a closely related discipline will also enjoy the benefits from either major offered by the department. The experience of analyzing language, literature, artifacts and architecture, and other ancient subjects will hone their intellectual abilities well for any profession.

CLASSICAL STUDIES (CLST)

89S. First-Year Seminar. CCI Topics in classical literature and/or art and archaeology vary each semester. Instructor: Staff. One course.

121. Medieval Cultures. ALP, CCI, CZ One course. C-L: see Medieval and Renaissance Studies 151; also C-L: Art History 121, History 241

144. Principles of Archaeology. CCI, CZ, EI Introduction to the many disciplines of archaeology, using a survey of cultures and civilizations to explain archaeological techniques, methods, theory, results, and ethics. Instructor: Antonaccio. One course.
181S. Greek Civilization. CCI, CZ The culture of the ancient Greeks from the Bronze Age to Alexander the Great: art, literature, history, philosophy, and religion. Not open to students who have had, or are taking, Classical Studies 283. Instructor: Staff. One course.

182. Roman Civilization. CCI, CZ The culture of the ancient Romans from their beginnings to Constantine: art, literature, history, philosophy, and religion. Not open to students who have taken or are taking Classical Studies 284. Instructor: Staff. One course.

185FS. Good and Evil in Imagined Worlds. ALP, CCI Exploration of ancient and medieval underpinnings of popular virtual-world building tropes around good and evil as found in video games, films, and novels. What pre-modern texts underlie the persistent connection between fantasy/sci-fi and our contemporary cultural practices? How do modern societies "consume" the past, rework it, and remodel it through various media for contemporary audiences? Open only to students in the Focus Program. Instructor: Woods. One course.

186FS. Ancient and Modern Liberty. CCI, CZ, EI SS One course. C-L: see Political Science 184FS

187FS. The World of the Greek Theater. ALP, CCI, CZ The tragedies and comedies of the fifth-century theater as a window on Athens: the conventions and public context of performance; the plays as indicators of social values, debates, and limits; the literary consciousness of authors and audience. Open only to students in the Focus Program. Instructor: Staff. One course.

204. Ancient and Medieval Epic. ALP, CCI Reading the major epics of antiquity in translation (Gilgamesh, Homer's Iliad and Odyssey, Vergil's Aeneid) and the European Middle Ages (Beowulf, Song of Roland, Dante's Inferno), emphasizing the changing definition and concept of the hero. Instructor: González, Janan, or Staff. One course. C-L: Medieval and Renaissance Studies 303

206. Classics of Page and Screen: Exploring the Iconic in Literature and Film. ALP, CCI, CZ Exploration of ancient, medieval and modern conceptualizations of good and evil as found in the iconic heroes, villains, and buffoons of literature and film; film and literature as windows onto their contemporary historical contexts, and as indicators of social values, debates, and limits. Instructor: Janan. One course.

208. Ancient Myth. ALP, CCI, CZ Myth in Ancient to Medieval contexts, from Homer and Hesiod to Boccaccio. Attention to nature of myth, its cultural functions, its adaptation to various literary forms, its reuse, possible interpretive approaches to myth, and its representation in art. Instructor: Woods, Janan or Staff. One course. C-L: Medieval and Renaissance Studies 301


248. Art and Archaeology of Ancient Athens. ALP, CCI, CZ One course. C-L: see Art History 208

250. The Art of Greece and Rome. ALP, CCI, CZ One course. C-L: see Art History 210

264. Greek and Roman Religion. CCI, CZ Topics in Greek and Roman religion from the Bronze Age through the rise of Christianity, based on literary, documentary, and archaeological sources. Coverage within the chronological boundaries via survey, case-studies, or a combination of both. Topics might include the relationship of myth and ritual, hero cult, mysteries, festivals, interface between philosophy and religion, "public" and "private" religion, religious "imports" and exoticism, architecture and landscape of religion. Instructor: González or Staff. One course. C-L: Religion 215

268S. Daily Life in Antiquity. ALP, CCI, CZ Daily life in Greek and Roman antiquity through written sources and material culture. Topics may include gender, sexuality, and family; slavery, class and order in Greek and Roman society; diet and dining; population and popular culture; discourse on the emotions and private letters. Instructor: Staff. One course. C-L: Women's Studies 218S

271. History of Ancient Philosophy. CCI, CZ One course. C-L: see Philosophy 203

272A. The Birth of Reason in Ancient Greece. CCI, CZ, EI One course. C-L: see Philosophy 236A
283. Greek History. CCI, CZ  The political and intellectual history of the Greeks from earliest times to the death of Alexander the Great. Not open to students who have had, or are taking, Classical Studies 181S. Instructor: Sosin, Johnson, or Staff. One course. C-L: History 230

284. Roman History. CCI, CZ  From the founding of Rome by Romulus to the founding of Constantinople by Constantine: social, cultural, and political history. Not open to students who have taken or are taking Classical Studies 182S. Instructor: Boatwright. One course. C-L: History 233

290. Special Topics in Classical Studies. CCI  Aimed at first and second-year students. Instructor: Staff. One course.

291. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

293. Research Independent Study. R  Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or project containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors and seniors; for seniors, the paper or project may partially fulfill the requirements for graduation with distinction. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

304. Drama of Greece and Rome. ALP, CCI, CZ  Reading in translation selected tragedies (Aeschylus, Sophocles, Euripides, Seneca) and comedies (Aristophanes, Menander, Plautus, Terence) with emphasis on political, social, and cultural developments, contemporary theatrical practice, and later influence on world theater and other media. Instructor: González or Staff. One course. C-L: Theater Studies 227, Visual and Media Studies 240

308. Greek and Roman Law. CCI, CZ  Law of Greece and Rome from the birth of the Greek polis and Rome's Twelve Tables to the Digest of Justinian. Coverage within the chronological boundaries via survey, case-studies, or a combination of both. Topics might include murder trials, political trials, civil law and procedure, family law, delict, religious "laws," oratory, and others. Instructor: Sosin. One course.

308S. Greek and Roman Law. CCI, CZ  Law of Greece and Rome from the birth of the Greek polis and Rome's Twelve Tables to the Digest of Justinian. Coverage within the chronological boundaries via survey, case-studies, or a combination of both. Topics might include murder trials, political trials, civil law and procedure, family law, delict, religious "laws," oratory, and others. Instructor: Atkins or Sosin. One course.

320A. Mediterranean Cultures (Study Abroad). CCI, CZ  Examination of diverse cultures and cultural interactions in ancient Sicily, including the Sicels, the Phoenicians, the Greeks, and the Romans. Particular attention paid to the identities developed and projected by the Greek colonies in relation to the native Sicels, the mainland Greeks and Phoenician settlements. Taught at the Intercolligate Center for Classical Studies in Catania. Instructor: Staff. One course.

324S. Special Studies in Greek History. CZ  Investigation into a topic chosen from Greek history from the Bronze Age to the consolidation of the Roman Empire in 30 BC. Individual topics might include the rise of the Macedonian Kingdom, the fourth century, Hellenistic Kingdoms, interactions between (Greek) colonizers and colonized, and the Roman presence in the Greek world vel sim. Instructor: Antonaccio, Johnson, Sosin, or staff. One course. C-L: History 232S

328S. Special Studies in Roman History. CZ  Investigation into a topic chosen from Roman history from Romulus to Justinian. Topics might include the Roman military, the lives of provincials and freedmen, women in Roman politics and society, games and spectacles, imperial dynasties, the rise and triumph of Christianity, Roman law, and the emergence of Byzantium vel sim. Instructor: Atkins, Boatwright, or staff. One course. C-L: History 235S

340A. Rome: History of the City. ALP, CCI, CZ  On-site study of the development of Rome's urban plan and its major monuments through the ages; the influence of the ancient Republic and Empire, the Papacy, and
the modern secular state; change and continuity in artistic forms and daily life. (Summer program in Italy.) Instructor: Boatwright. One course. C-L: Art History 209A, History 238A

341A. The Ancient City. CCI Examination of the archaeological monuments of Rome and other Italian sites, as well as literary sources, inscriptions, and works of art. Consent required. Taught in Rome as part of the Intercollegiate Center for Classical Studies program. Students must register for both 341A-1 and 341A-2. Instructor: Staff.

341A-1. Art and Archaeology. ALP, CCI Instructor: Staff (Study Abroad). One course.

341A-2. Political, Social, and Cultural Context. CCI, CZ Instructor: Staff (Study Abroad). One course.

344. Early Greek Archaeology: From the Fall of Mycenae to the Persian Wars. ALP, CCI, CZ, W Greek material culture in its social, economic, and historical contexts, 1200 to 480 BCE. Instructor: Antonaccio. One course. C-L: Art History 207

348. Greek Art and Archaeology II: Classical to Greco-Roman. ALP, CCI, CZ The archaeology of the Greek citystate including its historical context. Emphasis on both themes (sanctuaries, death and burial, warfare) and the ability to understand material culture in context. Instructor: Antonaccio. One course. C-L: Art History 207

352. The Aegean Bronze Age. ALP, CCI, CZ Survey of Greek prehistory, from the final Neolithic to the end of the era in ca. 1200 BCE. Issues to be considered include the historicity of the Trojan War, the relationship of this period to later Greek history and cultural identity. Instructor: Antonaccio. One course. C-L: Art History 207

364. Ancient Science and Technology. CZ, STS Development of scientific thought and technological innovation in the Ancient Near East, Greece, and Rome. Topics might include the rise of scientific thought, as against myth; impact of scientific and technological developments on Greek and Roman society and culture; history of medicine; history of mathematics; military technology. Instructor: González. One course. C-L: History 236

368. The Afterlife of Classics. ALP, CCI, CZ The appropriation of classical antiquity by later cultures and its reinterpretation by different audiences and for different purposes, with emphasis on the use of antiquity in the construction of social/cultural identities. Topics may include examination of various "classical revivals" in the arts, e.g., architecture, opera, epic; classics and ancient history in film; the use and misuse of ancient political thought and structures to shape and interpret modern institutions and historical discourse. Instructor: Janan, Woods, or Staff. One course.

368S. The Afterlife of Classics. ALP, CCI, CZ The appropriation of classical antiquity by later cultures and its reinterpretation by different audiences and for different purposes, with emphasis on the use of antiquity in the construction of social/cultural identities. Topics may include examination of various "classical revivals" in the arts, e.g., architecture, opera, epic; classics and ancient history in film; the use and misuse of ancient political thought and structures to shape and interpret modern institutions and historical discourse. Instructor: Atkins, Janan, Woods, or Staff. One course.

371. Aristotle. CZ, EI One course. C-L: see Philosophy 317

374. Ancient Political Theory. EI, SS, W One course. C-L: see Political Science 384; also C-L: Ethics Courses Offered Through Other Departments

480S. Capstone Seminars in Classical Studies. ALP, CCI, CZ, R, W Specific aspects of the history, art, and literature of classical Greece and Rome. Open only to qualified juniors and seniors; some knowledge of classical studies and history desirable, but not strictly necessary; research paper required. One course.

491. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

493. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or project containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors and seniors; for seniors, the paper or project may partially fulfill the requirements for graduation with distinction. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

524S. Greek History from the Bronze Age to the fifth century BCE. CZ Study of Greek history from the Bronze Age to the fifth century BCE via survey, case-studies, or a combination of both. Offerings might include Fifth-century Greece, Archaic Greece, The Athenian Empire, Western Greeks, Ancient Democracy, vel sim. Instructor: Johnson. One course. C-L: History 533S

528S. Greek History: Fifth Through First Centuries BC. CZ Studies in later Greek History from the fifth through first centuries BC. Coverage within these chronological boundaries via survey, case-studies, or a combination of both. Offerings might include Fourth-century Greece, The Hellenistic World, Ptolemaic Egypt, vel sim. Instructor: Sosin. One course. C-L: History 528S

532. The Roman Republic. CCI, CZ, R The rise of Rome, to its mastery of the Mediterranean; the political, social, and cultural consequences. Instructor: Boatwright. One course. C-L: History 516

532S. Roman History from Romulus to Augustus. CCI, CZ Study of Roman history form its earliest beginnings to the age of Augustus. Coverage via survey, case-studies, or a combination of both. Offerings might include The Roman Republic, Conflict of the Orders, Roman Revolution, vel sim. Instructor: Boatwright. One course. C-L: History 534S

536. The Roman Empire. CCI, CZ, R The foundation, consolidation, and transformation of Roman rule from Augustus to Diocletian. Instructor: Boatwright. One course. C-L: History 538

536S. Roman History from Augustus through Late Antiquity. CCI, CZ Study of Roman history from Augustus to the early medieval period via survey, case-studies, or a combination of both. Offerings might include The Roman Empire, The Julio-Claudians, The Second Sophistic, The Severans, The Third-Century Crisis, Late Antiquity, vel sim. Instructor: Staff. One course. C-L: History 539S

541S. Greek Art and Society: Archaic To Classical. ALP, CCI, CZ, R One course. C-L: see Art History 501S

542S. Greek Art and Society: Hellenistic. ALP, CCI, CZ One course. C-L: see Art History 502S

558S. Live Images: Ancient and Medieval Representations of the Divine. ALP, CCI, CZ, W One course. C-L: see Visual and Media Studies 533S; also C-L: Religion 552S, Medieval and Renaissance Studies 507S

568. The Legacy of Greece and Rome. ALP, CCI, CZ The reception of classical antiquity--its literature, art and architecture--in subsequent ages, from the early medieval period to the present day. Instructor: Woods. One course. C-L: Medieval and Renaissance Studies 648

571S. Ancient Political Philosophy. CCI, EI, SS One course. C-L: see Political Science 575S; also C-L: Philosophy 571, Ethics Courses Offered Through Other Departments

572S. Plato. CZ One course. C-L: see Philosophy 511S

573S. Aristotle. CZ One course. C-L: see Philosophy 512S

580S. Proseminar: Introduction to Classical Studies. Credit/no credit grading only. Instructor: Staff. One course.

590S-2. Special Topics in Roman Archaeology. ALP, CZ Studies in Roman art and archaeology on focused themes, or on particular assemblages or problems. Offerings might include Art and Architecture of Pompeii, Roman Portraiture vel sim. Instructor: Boatwright or staff. One course. C-L: Art History 590S-10
690S. Special Topics in Classical Studies. CCI, CZ Topic varies from semester to semester. Instructor: Staff. One course.

691. Directed Reading and Research. Credit to be arranged. Instructor: Staff. Variable credit.

GREEK (GREEK)

101. Elementary Greek. FL Structure of the language (grammatical forms, syntax, vocabulary, and pronunciation); introduction to reading. Instructor: Staff. One course.

102. Elementary Greek. FL Second half of Greek 101, 102. Prerequisite: Greek 101. Instructor: Staff. One course.

203. Intermediate Greek. CZ, FL Readings in classical Attic prose literature. Prerequisite: Greek 102 or equivalent. Instructor: Staff. One course.


204. Advanced Intermediate Greek. CZ, FL Introduction to Athenian Drama. Prerequisite: Greek 203 or the equivalent. Instructor: Staff. One course.


291. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

292. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.


304S. Greek Historians. ALP, CZ, EI, FL Historians. Readings in Greek historians illuminating key themes, periods, historiographical conventions, especially historiography's role as font of ancient moral and ethical exempla. Authors might include Herodotus, Thucydides, Xenophon, Polybius, Diodorus Siculus, vel sim. Must have 2 years of Greek (or equivalent). Instructor: Sosin or Staff. One course.

308S. Greek Philosophy. CZ, EI, FL Philosophy. Investigation into key trends, themes, developments in Greek Philosophy, especially moral and political, through readings from the Pre-Socratic philosophers, Plato, Aristotle, Epicurus, and/or others. Must have 2 years of Greek (or equivalent). Instructor: González or Staff. One course.

312S. Greek Oratory and Rhetoric. ALP, CCI, FL Oratory/Rhetoric. Exploration of the theory and practice of ancient oratory and rhetoric, especially as regards negotiation of power through public speech. Includes readings from Antiphon, Andocides, Lysias, Isocrates, Isaeus, Demosthenes, Gorgias, Alcidamas, Aristotle, Ps.-Longinus, Demetrios 'On Style, and/or others. Must have 2 years of Greek (or equivalent). Instructor: González, Sosin, or Staff. One course.
324S. Greek Epic. ALP, CCI, FL Epic. Readings in Greek epic, with attention to language, meter, oral poetics, characterization, narrative structure, ancient and modern interpretation, the epic tradition beyond Greece and Rome, epic poems as codifiers of socially constructed cultural norms. Authors and works might include Homer, Hesiod, and the Homeric Hymns. Must have 2 years of Greek (or equivalent). Instructor: González or Staff. One course.

328S. Lyric and Hellenistic Poetry. ALP, CCI, FL Lyric and Hellenistic Poetry. Readings in Greek lyric and Hellenistic poetry. Possible authors and works include selected fragments from the major lyric poets, Pindar, Theocritus and/or others, particularly as they illuminate construction, testing, examination of Greek cultural identity. Must have 2 years of Greek (or equivalent). Instructor: González or Staff. One course.

332S. Greek Drama. ALP, EI, FL Drama. Reading and interpretation of selected plays by Aeschylus, Sophocles, Euripides, Aristophanes, and Menander, with attention to language, meter, staging, characteristic themes and conventions, and especially the cultural context of ancient drama and its use as an instrument and venue of public ethical and political debate. Must have 2 years of Greek (or equivalent). Instructor: González or Staff. One course.

493. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or project containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors and seniors; for seniors, the paper or project may partially fulfill the requirements for graduation with distinction. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

504. Historians. ALP, CCI, FL Investigation of the Greek concept and practice of writing history from Atthis to Agathius, with attention to key themes, periods, historiographical conventions. Authors and works might include Herodotus, Thucydides, Xenophon, Polybius, Diodorus Siculus, Arrian, Appian, Eusebius, Procopius, Agathius. Instructor: Johnson, Sosin, or staff. One course.

508S. Rhetoric, Literary Criticism, and Philosophy. ALP, CCI, CZ, FL Readings of rhetorical speeches and treatises (e.g. Demosthenes, Isocrates, Aristotle's Rhetoric, Rhetorica ad Alexandrum); and/or of ancient literary criticism (e.g. Aristotle, Ps.-Longinus); and/or of philosophical works (e.g. Plato's Dialogues, fragments of the pre-Socratics); and/or of authors, works, trends in Greek literature of the Roman Empire. Instructors: González or Staff. One course.

524. Epic and Lyric. ALP, CCI, FL Readings in Greek epic and/or Lyric, with attention to language, meter, poetics, characterization, narrative structure, ancient and modern interpretation, traditions beyond Greece and Rome, epic poems as codifiers of socially constructed cultural norms, lyric construction, and examination of Greek cultural identity. Authors and works might include selections of fragmentary works, Pindar, Bacchylides, Callimachus, Theocritus, the Greek Anthology, and others. Instructor: Burian or González. One course.

528. Drama. ALP, CCI, CZ, EI, FL Readings in the dramatic and mimetic genres, especially Attic Tragedy and Comedy, with attention to language, meter, staging, characteristic themes and conventions, and especially the cultural context of ancient drama and its use as an instrument of public ethical and political debate. Authors may include Aeschylus, Sophocles, Euripides, Aristophanes, Menander, Sophron, Herodas, Lycophron. Instructor: Burian. One course.

580. Survey of Greek Literature. ALP, CCI, FL Instructor: Staff. One course.

582S. Greek Epigraphy. CZ, FL Introduction to the field of Greek Epigraphy, its history, methods, and place within the field of Classical Studies. Close attention to reading and translation of the variety of inscribed documentary and literary Greek. Instructor: Sosin. One course.

586S. Papyrology. CZ, FL Introduction to the field of Greek Papyrology, its history, methods and place within the field of Classical Studies. Close attention to reading and translation of the variety of documentary and/or literary papyrological Greek. Instructor: Sosin or Staff. One course.

691. Directed Reading and Research. Instructor: Staff. Variable credit.
LATIN (LATIN)

25. **Introduction to Literature.** This number represents course credit for a score of 4 or 5 on one or more of the College Board Advanced Placement tests in Latin. One course.

101. **Elementary Latin. FL** Study of the structure of the language (i.e., forms, vocabulary, syntax, and pronunciation); selected readings in prose and poetry. Instructor: Staff. One course.


203. **Intermediate Latin. CZ, FL** Politics and thought in the late Republic: Caesar and Cicero. Instructor: Boatwright or staff. One course.


204. **Advanced Intermediate Latin. CZ, FL** The culture of Augustan Rome: readings in Vergil's "Aeneid." Prerequisite: Latin 203 or equivalent. Instructor: Staff. One course.


280. **Transition to Advanced Latin. CZ, FL** For first-year and sophomore students who have received credit for Latin 85 and are enrolling in their first college Latin course. Literature and life in the Roman Empire: selections from the epigrams of Martial and the letters of Pliny the Younger, combined with extensive grammar review. Instructor: Staff. One course.

291. **Independent Study.** Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

292. **Independent Study.** Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.


304S. **History and Biography. ALP, CZ, EI, FL** Readings in one or more Roman historical works, illuminating key themes, periods, historiographical conventions, and especially ancient historiography's role as font of moral and ethical exempla. Authors might include Caesar, Sallust, Livy, Tacitus, Velleius, Ammianus Marcellinus, Gregory of Tours, Suetonius, vel sim. Students must have two years of Latin or equivalent. Instructor: Boatwright, Woods, or Staff. One course.

308S. **Latin Epistle. ALP, FL** Readings in the form, function, history, and conventions of the Latin epistle. Material might range from the letters of Cicero, Cyprian, Augustine, Jerome, or medieval collections; from Seneca's Letters to Lucilius to Ovid's Heroides or Pliny's correspondence with the Emperor Trajan. Students must have two years of Latin or equivalent. Instructor: Boatwright, Sosin, Woods, or Staff. One course.

312S. **Oratory/ Rhetoric. ALP, CCI, FL** Readings in Roman oratory and rhetoric. Focus on negotiation of power through public speech, definitions of identity, and public construction of cultural norms. Authors and works might include Cicero, Quintilian's Institutes of Oratory, Tacitus' Dialogue on Oratory, Seneca the Elder, selected speeches from Roman historians, vel sim. Students must have two years of Latin or equivalent. Instructor: Boatwright or staff. One course.
316S. Latin Novel. ALP, CCI, CZ, FL Readings in Latin novel, with special attention to the form's literary predecessors and to its particular illumination of social, economic, and cultural features of the Roman world. Authors include Petronius and/or Apuleius. Students must have two years of Latin or equivalent. Instructor: Boatwright or staff. One course.

324S. Latin Epic. ALP, CCI, FL Readings in Roman Epic with attention to genre, language, meter, characterization, narrative structure, ancient and modern interpretation, the epic tradition in and beyond Greece and Rome, and the genre's role in construction of cultural identity. Authors might include Vergil, Ovid, and Lucan. Students must have two years of Latin or equivalent. Instructor: Janan or staff. One course.

328S. Elegy and Lyric. ALP, CCI, FL Readings in Latin Elegy and Lyric, with special attention to Roman responses to Greek literary traditions and to the contemplation of human passions and vices, within a specifically Roman culture. Authors might include Catullus, Tibullus, Propertius, Ovid, Horace, and Martial. Students must have two years of Latin or equivalent. Instructor: Janan or staff. One course.

332S. Drama. ALP, CCI, FL Readings in Roman Comedy and Tragedy. Special attention to Roman 'translation' and reception of the Greek literary tradition before it; the genre's illumination of social, economic, and cultural conditions; the form's scrutiny of core cultural ideals. Authors include Plautus, Terence, and Seneca. Instructor: Janan, Woods or staff. One course.

336S. Satire. ALP, CCI, CZ, EI, FL Readings in Roman Satire with special attention to the genre's self-critical posture and its ethical critique of Roman culture and the Latin literary tradition. Authors might include Lucilius, Horace, Persius, and Juvenal. Students must have two years of Latin or equivalent. Instructors: Janan, Sosin, or staff. One course.

364S. Educating Rome. ALP, CCI, EI, FL Readings in the very Roman category of 'didactic.' How Romans thought to educate themselves and others about the world they controlled and lived in; Roman education as cultural, moral education. Authors and works might include Ovid's Ars Amatoria, Vitruvius' handbook on architecture, Lucretius' De rerum natura, Columella on farming. Students must have two years of Latin or equivalent. Instructor: Boatwright, Sosin, or staff. One course.

368S. Snapshots of Rome. ALP, CCI, CZ, FL Readings in Latin literature from a specific time period and historical context, such as the Age of Augustus; Nero and His Times; Life in the Late Republic; or the Fall of the Roman Empire. Emphasis on how literature and society construct and inform each other at critical moments in Roman history. Students must have two years of Latin or equivalent. Instructor: Boatwright, Woods or staff. One course.

372S. Interpreting Rome. ALP, CCI, CZ, FL Readings on retrospective views on Rome's past; how cultures view themselves through the lens of others. Topics may include late ancient scholia and commentaries and the texts they sought to illuminate, Christian views of a pagan past, Medieval perspectives on ancient texts and history. Students must have two years of Latin or equivalent. Instructor: Woods or staff. One course. C-L: Medieval and Renaissance Studies 304S

376S. Roman Culture. CCI, CZ, FL Readings on Roman cultural themes, trends, or characteristics. Emphasis on variety of viewpoints from which to understand Roman culture. For example, public spectacle, Stoic cultural commentary, popular culture, 'street' Latin found in inscriptions, papyri, and graffiti, or Roman attitudes toward provincials and provincials' toward Romans. Students must have two years of Latin or equivalent. Instructor: Boatwright or staff. One course.

390. Special Topics in Latin Literature. ALP, CCI, FL Prerequisite: the completion of second-year or third-year Latin, depending on the topic. Instructor: Staff. One course.

493. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or project containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors and seniors; for seniors, the paper or project may partially fulfill the requirements for graduation with distinction. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.
504S. Selections From Latin Texts/Authors in the Genres of History, Oratory, and/or Philosophy. ALP, CZ, EI, FL. Detailed study of selections from one or more genres. Typical iterations might investigate Roman concept and practice of writing history from Cato to Ammianus Marcellinus; study of Roman oratory (readings might include Cicero, Quintilian, Tacitus); and/or philosophical texts (readings might include Lucretius, Seneca, Pliny the Elder, Vitruvius, Augustine, Boethius). Instructor: Boatwright or Staff. One course.

508S. Medieval and Renaissance Latin. ALP, CCI, CZ, FL. Detailed study of selections from one or more authors or genres. Selections either constitute a survey of Latin literature from late antiquity through the Renaissance, or focus on specific locations or periods (e.g. Insular Writers, or the Carolingian "Renaissance", or the Long Twelfth Century). Authors and readings might include Augustine, Isidore of Seville, Bede, Einhard, Carolingian poetry, Hrotsvita, the Carmina Burana, Heloise and Abelard, Hildegard of Bingen, Petrarch, Lorenzo Valla, Leonardo Bruni. Topics may vary. Instructor: Woods. One course. C-L: Medieval and Renaissance Studies 608S

524S. Latin Poetry: Epic, Lyric, and Elegy. ALP, CCI, CZ, FL. Detailed study of selections from one or more genre. Authors and readings might include Vergil, Ovid, Statius' Thebaid and Silvae, Valerius Flaccus, Silius Italicus, Catullus, Horace, Tibullus, Propertius, Martial, Juvenecus, medieval Latin court poetry and love lyric. Instructor: Janan. One course.

528S. Selections From Latin Texts/Authors in the Genres of Drama, Satire, and/or the Novel. ALP, CCI, CZ, FL. Detailed study of selections from one or more of the genres Drama, Satire, Novel. Authors and readings might include Plautus, Terence, Seneca, Horace, Persius, Juvenal, Petronius, Apuleius. Instructor: Janan or Staff. One course.

580. Survey of Latin Literature from its Beginnings to Late Antiquity. ALP, CCI, FL. Instructor: Staff. One course.

581S. Latin Prose Syntax and Style. CCI, FL. Latin prose composition combined with analysis of the style and syntax of select Latin prose authors. Instructor: Staff. One course.

584S. Latin Palaeography. ALP, CZ, FL. Introduction to the field of Latin Palaeography, its history and methods; also the role of the book in the intellectual life of the medieval and Renaissance periods. Particular emphasis placed on learning to read Latin scripts from antiquity to the Renaissance. Instructor: Woods. One course. C-L: Medieval and Renaissance Studies 647S

585S. Latin Epigraphy. CZ, FL. Introduction to the field of Latin epigraphy, its history, methods, and place within the field of Classical Studies. Close attention to reading and translation of the variety of inscribed documentary and literary Latin texts, and to the original physical and social contexts of inscriptions. Instructor: Boatwright. One course.

691. Directed Reading and Research. Credit to be arranged. Instructor: Staff. Variable credit.

THE MAJOR

Classical Languages (Greek and Latin)

Major Requirements. Knowledge of both Greek and Latin through the second year: through Greek 204 and Latin 204 or the equivalent. Eight courses in Greek and/or Latin, at least six of which must be at or above the 300-400 level; one course in Classical Studies 200-400; Capstone Seminar (Classical Studies 480S). Total 10 courses.

For double majors in classical languages and classical civilization, no more than two courses may be counted toward both majors.

Classical Civilization (Ancient History, Culture, Literature, Archaeology)

Major Requirements. Two required introductory courses: Option 1: Classical Studies 181S or 283 and 182S or 284; Option 2: two courses in Greek or Latin below the 300 level. Note: the two options may not be combined (e.g., Classical Studies 181S and Latin 102 do not satisfy the requirement). Seven Classical Studies courses at or above the 200-400 level; literature in the original language, at or above the 300-400 level. Courses must be in at least three of the following areas: literature in translation at or above the 200 level.
Comparative Literature  219

or in the original language at or above the 300-400 level; history; art and archaeology; philosophy. (Note: Classical Studies 283/4 may not be counted toward the seven advanced courses.) Capstone Seminar (Classical Studies 480S). Total 10 courses.

For double majors in classical languages and classical civilization, no more than two courses may be counted toward both majors.

Departmental Graduation with Distinction

Graduation with distinction is available to majors. Eligible students have a 3.5 grade point average in the major on beginning their project. In the context of a Research Independent Study (Classical Studies/Greek/ Latin 493) the candidate writes a major research paper. A committee of three faculty members votes whether to award Distinction, High Distinction, or Highest Distinction for the work. Majors interested in applying shall consult the director of undergraduate studies by the spring of their junior year.

THE MINOR

Four minors are offered by the department, as listed below. No courses used to fulfill the requirements of one minor may be used for another, or for the majors in classical languages or classical civilization.

Classical Archaeology

Requirements. Five courses in ancient art and archaeology, at least three at the 200-400 level, at least three of these originating in the Department of Classical Studies.

Classical Civilization

Requirements. Five courses in CLST, at least three at or above the 200-400 level; literature in the original language, at or above the 300-400 level. Courses must be in at least two of the following areas: literature in translation at or above the 200-400 level or in the original language at or above the 300-400 level; history; art and archaeology; philosophy.

Greek

Requirements. Five courses in ancient Greek, at least three at or above the 300-400 level.

Latin

Requirements. Five courses in Latin, at least three at or above the 300-400 level.

Comparative Literature

For courses in comparative literature, see the listing in this chapter under “Literature Program in Global Cultural Studies (LIT)” on page 407.

Computational Biology and Bioinformatics (CBB)

510S. Computational Biology Seminar. A weekly series of seminars on topics in computational biology presented by invited speakers, Duke faculty and CBB doctoral and certificate students. This course is required for all first and second year CBB students. In addition, all certificate students must register and receive credit for the seminar for four semesters.

511. Journal Club. NS, R A weekly series of discussions led by students that focus on current topics in computational biology. Topics of discussion may come form recent or seminal publications in computational biology or from research interests currently being pursued by students. First and second year CBB doctoral and certificate students are strongly encouraged to attend as well as any student interested in learning more about the new field of computational biology. Instructor: Furey.

520. Genome Tools and Technologies. This course introduces the laboratory and computational methodologies for genetic and protein sequencing, mapping and expression measurement. Instructor: Dietrich. One course. C-L: Genome Sciences and Policy

521. Computational Gene Expression Analysis. QS This course covers topics spanning the technological and computational areas of modern gene expression analysis, developing computational methods in important and current problems of clinical and physiological phenotyping, including custom computation and
algorithmic development. Prerequisites: Statistics 611, or 831 or 841. Instructor: Staff. C-L: Statistical Science 505, Molec Genetics & Microbiology 521

523S. Computational Immunology. Course will integrate empirical and computational perspectives on immunology and host defense. Students are expected to have significant preparation in either biomedicine or a quantitative science. Topics covered are intended to provide an entree into the use of computational methods for research and practice in immunology and infectious disease, from basic science to medical applications. Consent of instructor required. Instructors: Kepler and Cowell. One course. C-L: Immunology 523S

525. Core Concepts Bridging Genomic and Computational Biology. Advances in the biological sciences are often the result of multi-disciplinary teams of investigators. Successful collaboration requires effective communication, which in turn is facilitated by the construction of a hierarchical "concept map" that spans both disciplines and can be used as the basis of new shared insights and analysis. This course will use important publications that resulted from the successful alignment of biological and computational investigations to help students develop such concept maps and use them to enhance their cross-disciplinary communication. At each session, two faculty representing the appropriate disciplines will be present. Instructor: Staff. Half course.

540. Statistical Methods for Computational Biology. Methods of statistical inference and stochastic modeling with application to functional genomics and computational molecular biology. Topics include: statistical theory underlying sequence analysis and database searching; Markov models; elements of Bayesian and likelihood inference; multivariate high-dimensional regression models, applied linear regress analysis; discrete data models; multivariate data decomposition methods (PCA, clustering, multi-dimensional scaling); software tools for statistical computing. Prerequisites: multivariate calculus, linear algebra and Statistical Science 611. Instructor: Mukherjee. One course. C-L: Statistical Science 613

541. Statistical Genetics. Mechanisms, probability models and statistical analysis in examples of classical and population genetics, aimed at covering the basic quantitative concepts and tools for biological scientists. This module will serve as a primer in basic statistics for genomics, also involving computing and computation using standard languages. Instructor: Staff. One course. C-L: Statistical Science 504, Genome Sciences and Policy

550. Computational Structural Biology. QS, R One course. C-L: see Computer Science 664; also C-L: Statistical Science 614

590. Special Topics in Computational Biology. Instructor: Staff. One course.

591. Independent Study. Faculty directed experimental or theoretical research. Instructor: Staff. Variable credit.

Computer Science (COMPSCI)

Professor Tomasi, Chair; Associate Professor of the Practice Lucic, Associate Chair; Professor of the Practice Astrachan, Director of Undergraduate Studies; Associate Professor K. Munagala, Director of Graduate Studies; Professors Agarwal, Calderbank, Chase, Conitzer, Donald, Edelsbrunner, Harer, Henriquez, Lebeck, Lenoir, Maggs, Reif, Rose, Sun, Tomasi, and Trivedi; Associate Professors Board, Dwyer, Ferrari, Hartemink, Kedem, Kim, Mukherjee, Munagala, Ohler, Parr, Roy Choudhury, Schmidler, Sorin, J. Yang and X. Yang; Assistant Professors Babu, Conitzer, Gordan, Lee, and Maggioni; Professors Emeriti Biermann, Ellis, Gallie, Loveland, Patrick, Ramm, Starmer and Wagner; Professors of the Practice Astrachan and Rodger; Associate Professors of the Practice Forbes and Lucic; Adjunct Professors Arge, Baldine, Fowler, LaBean, Lombardi, Pitsianis and Pormann; Research Scientists Brady and Schultes; Lecturer Duvall

A major or a minor is available in this department.

The Department of Computer Science provides courses on the concepts of computing and computers, their capabilities, and uses. In most courses students make extensive use of the available computing facilities. Students who wish to take a single introductory course, as part of their general education, usually elect either Computer Science 94 or 101.
88S. *Introduction to Problem Solving*. QS Techniques for solving computational problems in groups and individually. Topics vary every semester the course is offered. Course may be repeated once. Consent of instructor required. Co-requisite: Enrollment in Computer Science 94 or Computer Science 101. Instructor: Rodger. Half course.

89S. *First-Year Seminar*. Topics vary each semester offered. Instructor: Staff. One course. C-L: Information Science and Information Studies

91. *Principles of Computer Science. QS, STS* An overview for students not intending to major in computer science. Computer programming, algorithms, symbolic and numeric computation, computer systems, basic theoretical foundations, and the effects of computer and information technology on society. Not open to students having credit for Computer Science 101 or higher. Instructors: Forbes. One course. C-L: Information Science and Information Studies

92. *Technical and Social Analysis of Information and the Internet. EI, QS, STS* The development of technical and social standards governing the Internet and Information Technology in General. The role of software as it relates to law, patents, intellectual property, and IETF (Internet Engineering Task Force) standards. Analysis of issues from a technical perspective with an emphasis on the role of software and the relationship of standards to social and ethical issues. Not open to students who have taken Computer Science 82S or 342S. Instructor: Astrachan, Forbes. One course. C-L: Information Science and Information Studies

94. *Programming and Problem Solving. QS* Programming and problem solving in a specific domain such as robotics, virtual worlds, web programming, biology, genomics, or computer science. Students learn the basics of programming by studying problems in one application area. Instructor: Astrachan, Duvall, Forbes, or Rodger. One course. C-L: Information Science and Information Studies

101. *Program Design and Analysis I. QS* Introduction to the practices and principles of computer science and programming and their impact on and potential to change the world. Algorithmic, problem-solving, and programming techniques in domains such as art, data visualization, mathematics, natural and social sciences. Programming using high-level languages and design techniques emphasizing abstraction, encapsulation, and problem decomposition. Design, implementation, testing, and analysis of algorithms and programs. No previous programming experience required. Instructor: Astrachan or staff. One course. C-L: Information Science and Information Studies

101L. *Introduction to Computer Science. QS* Introduction practices and principles of computer science and programming and their impact on and potential to change the world. Algorithmic, problem-solving, and programming techniques in domains such as art, data visualization, mathematics, natural and social sciences. Programming using high-level languages and design techniques emphasizing abstraction, encapsulation, and problem decomposition. Design, implementation, testing, and analysis of algorithms and programs. No previous programming experience required. Instructor: Astrachan, Duvall, Forbes, or Rodger. One course.

102S. *Constructing Immersive Virtual Worlds*. QS One course. C-L: see Information Science and Information Studies 270S; also C-L: Visual and Media Studies 287S

104FS. *Introduction to Computational Genomics and Computer Science. QS, STS* The role of computation in prior and current biological research, both in large-scale genomics projects such as the human genome project and in basic biology and medical research. Introduction to programming possibly including scripting, CGI programming, dynamic programming, web protocols. Introduction to specific algorithms, tools, and resources for biological research including genome sequence alignment and database design and mining. Technical and social implications of genomics and genome studies made possible by advances in algorithms, computational methods, and computational models. For Focus Program students only. One course. C-L: Genome Sciences and Policy

107. *Artificial Life, Culture, and Evolution. QS, SS, STS* One course. C-L: see Information Science and Information Studies 170; also C-L: Visual and Media Studies 172
109FS. Minds and Computers: Foundations of Artificial Intelligence. QS, R The project of Artificial Intelligence (AI) and the idea of understanding the mind/brain as a computing machine. Elementary ideas both in computational theory and in programming (for example, LISP). Examination of neural network models built to understand the workings of the brain, and major AI projects in knowledge representation, game playing and autonomous robotics, issues in the philosophical foundations of AI, such as the idea of Turing Test, and evaluation of debates between AI researchers and their critics. Open only to students in the Focus Program. Instructor: Staff. One course. C-L: Information Science and Information Studies

149S. Computer Science Education Research Seminar. EI, QS, STS Project-based robotics course linked with community service. Designing and implementing the software and hardware architecture of a LEGO robot to perform tasks such as line tracking and simple map building. Reactive and deliberative control. Mentoring students in local schools. Course promotes ability to reason about core algorithms and challenges present in field of autonomous mobile robotics, and to effectively convey and formulate mobile robotics curricula for middle or high school students. Prerequisite: None. One course. C-L: Education 149S

190. Topics in Computer Science. QS Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Computer Science. Topics differ by section. Instructor: Staff. One course.

190S. Topics in Computer Science. QS Seminar version of Computer Science 190, topics from various areas of computer science, changing each year. Instructor: Staff. One course.

201. Data Structures and Algorithms. QS Analysis, use, and design of data structures and algorithms using an object-oriented language like Java to solve computational problems. Emphasis on abstraction including interfaces and abstract data types for lists, trees, sets, tables/maps, and graphs. Implementation and evaluation of programming techniques including recursion. Intuitive and rigorous analysis of algorithms. Prerequisite: Computer Science 101 or Engineering 110L, or equivalent. Instructor: Astrachan, Duvall, staff. One course. C-L: Information Science and Information Studies

210. Introduction to Operating Systems. QS Basic concepts and principles of multiprogrammed operating systems. Processes, interprocess communication, CPU scheduling, mutual exclusion, deadlocks, memory management, I/O devices, file systems, protection mechanisms. Also taught as Electrical and Computer Engineering 353. Prerequisites: Computer Science 201 and 250. Instructor: Chase, Cox, or Maggs. One course. C-L: Modeling Biological Systems

220. Introduction to Numerical Methods and Analysis. QS Theory, algorithms, and software that concern numerical solution of linear equations, approximation and interpolation of functions, numerical solution of nonlinear equations, and numerical solution of ordinary differential equations. Prerequisite: Computer Science 101; Mathematics 21; 122; 221 or 111. Instructor: Rose or Sun. One course. C-L: Modeling Biological Systems

220S. Introduction to Numerical Methods and Analysis. QS Seminar version of Computer Science 220. One course.

223. Computational Microeconomics. QS Use of computational techniques to operationalize basic concepts from economics. Expressive marketplaces: combinatorial auctions and exchanges, winner determination problem. Game theory: normal and extensive-form games, equilibrium notions, computing equilibria. Mechanism design: auction theory, automated mechanism design. Prerequisites: 100-level Statistics and 100-level Mathematics or consent of instructor. Instructor: Conitzer. One course.


230. Discrete Math for Computer Science. QS Mathematical notations, logic, and proof; linear and matrix algebra; graphs, digraphs, trees, representations, and algorithms; counting, permutations, combinations,
discrete probability, Markov models; advanced topics from algebraic structures, geometric structures, combinatorial optimization, number theory. Prerequisites: Mathematics 21 and 122; Computer Science 101. Instructor: Agarwal, Edelsbrunner, Forbes, Reif, or Tomasi. One course.

241S. Computer Science Seminar. QS, R, W In-depth exploration of specific areas in computer science. The methods of critical inquiry and scholarly research reinforced with regular written analysis, seminar-style presentations and collaborative research projects. Prerequisites: Computer Science 201 and 250. Instructor: Staff. One course. C-L: Information Science and Information Studies

249S. CompSci Majors - Project-based Robotics Course with Service Learning. EI, STS Project-based robotics course linked with community service. Introduction and implementation of algorithms for navigation, map building, and object recognition. Representing uncertainty in robot motion and sensing. Mentoring students in local schools. After taking this course, students should be able to reason about the core algorithms and challenges present in the field of autonomous mobile robotics; and effectively convey and formulate mobile robotics curricula for middle or high school students. Prerequisite: Computer Science 201 or equivalent programming experience. Instructor: Forbes. Half course.

250. Computer Organization and Programming. QS Computer structure, machine language, instruction execution, addressing techniques, and digital representation of data. Computer systems organization, logic design, microprogramming, and interpreters. Symbolic coding and assembly systems. Prerequisite: Computer Science 201 or consent of instructor. Instructor: Kedem or Lebeck. One course. C-L: Modeling Biological Systems

260. Introduction to Computational Genomics. NS, QS A computational perspective on the analysis of genomic and genome-scale information. Focus on exploration and analysis of large genomic sequences, but also attention to issues in structural and functional genomics. Topics include genome sequence assembly, local and global alignment, gene and motif finding, protein threading and folding, and the clustering and classification of genes and tissues using gene expression data. Students to learn computational approaches to genomics as well as to develop practical experience with handling, analyzing, and visualizing information at a genome-scale. Instructor: Hartemink. One course. C-L: Genome Sciences and Policy

270. Introduction to Artificial Intelligence. QS Algorithms and representations used in artificial intelligence. Introduction and implementation of algorithms for search, planning, decision, theory, logic, Bayesian networks, robotics and machine learning. Prerequisite: Computer Science 201. Instructor: Parr. One course. C-L: Information Science and Information Studies, Modeling Biological Systems

288. Logic and Its Applications. QS One course. C-L: see Mathematics 388; also C-L: Philosophy 350

290. Topics in Computer Science. QS Topics from various areas of computer science, changing each year. Prerequisite: Computer Science 201 or equivalent. Instructor: Staff. One course.


290S. Topics in Computer Science. QS Seminar version of Computer Science 290. Instructor: Staff. One course.

308. Software Design and Implementation. QS Techniques for design and construction of reliable, maintainable and useful software systems. Programming paradigms and tools for medium to large projects: revision control, UNIX tools, performance analysis, GUI, software engineering, testing, documentation. Prerequisite: Computer Science 201. Instructor: Astrachan or Duvall. One course. C-L: Information Science and Information Studies, Modeling Biological Systems


316. Introduction to Database Systems. QS, R Databases and relational database management systems. Data modeling, database design theory, data definition and manipulation languages, storing and indexing
techniques, query processing and optimization, concurrency control and recovery, database programming interfaces. Current research issues including XML, web data management, data integration and dissemination, data mining. Hands-on programming projects and a term project. Prerequisite: Computer Science 201, recommended: Computer Science 308. Instructor: Babu or J. Yang. One course. C-L: Information Science and Information Studies

330. Introduction to the Design and Analysis of Algorithms. QS Design and analysis of efficient algorithms including sorting, searching, dynamic programming, graph algorithms, fast multiplication, and others; nondeterministic algorithms and computationally hard problems. Prerequisites: Computer Science 201 and 230. Instructor: Edelsbrunner, Mungala, or Reif. One course. C-L: Modeling Biological Systems

334. Mathematical Foundations of Computer Science. QS An introduction to theoretical computer science including studies of abstract machines, the language hierarchy from regular sets to recursively enumerable sets, noncomputability, and complexity theory. Prerequisites: Computer Science 201 and Mathematics 212. Instructor: Reif or Rodger. One course. C-L: Modeling Biological Systems

342S. Technical and Social Analysis of Information and the Internet. EI, QS, R, SS, W Technical version of Computer Science 82S. Requires a significant technical project. The development of technical and social standards governing the Internet and information technology in general. The role of software as it relates to law, patents, intellectual property, and IETF (Internet Engineering Task Force) standards. Written analysis of issues from a technical perspective with an emphasis on the role of software and on how standards relate to social and ethical issues. Meets as a seminar with an additional weekly meeting to accommodate guest lectures. Not open to students who have taken Computer Science 82S. Prerequisites: Computer Science 308 and recommended Computer Science 316. Instructor: Astrachan and Forbes. One course. C-L: Information Science and Information Studies

344. Computer Graphics. QS Overview, motivation, and history; OpenGL and OpenInventor; coordinate systems and geometric transforms; drawing routines, antialiasing, supersampling; 3d object representation, spatial data structures, constructive solid geometry; hidden-surface-removal algorithms, z-buffer, A-buffer; illumination and shading models, surface details, radiosity; achromatic light, color specification, colorimetry, different color models; graphics pipeline, SGI reality engine, Pixel 5; animation, levels of detail. Prerequisites: Computer Science 308 and Mathematics 221. Instructor: Agarwal or Duvall. One course. C-L: Visual and Media Studies 241, Modeling Biological Systems

390. Topics in Computer Science. QS, R Topics from various areas of computer science, changing each year. Includes research intensive work exposing the student to computer science research methodology and resulting in a major document or project. Prerequisite: Computer Science 201. Instructor: Staff. One course.

391. Independent Study. Individual work in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper, project, or written report covering a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper, project, or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.


430. Algorithmic Paradigms. QS Applications include dynamic data structures, graph algorithms, randomized algorithms. Intractability and NP completeness. Prerequisite: Computer Science 100 and 102. Instructor: Agarwal, Edelsbrunner, Munagala, or Reif. One course.

434. Topology with Applications. QS One course. C-L: see Mathematics 412

445. Introduction to High Dimensional Data Analysis. QS One course. C-L: see Mathematics 465
510. Operating Systems. QS  Fundamental principles of operating system design applied to state-of-the-art computing environments (multiprocessors and distributed systems) including process management (coscheduling and load balancing), shared memory management (data migration and consistency), and distributed file systems. Instructor: Chase, Cox, or Maggs. One course.

512. Distributed Information Systems. Principles and techniques for sharing information reliably and efficiently in computer networks, ranging from high-speed clusters to global-scale networks (e.g., the Internet). Topics include advanced distributed file systems, distributed programming environments, replication, caching and consistency, transactional concurrency control, reliable update and recovery, and issues of scale and security for Internet information services. Prerequisites: Computer Science 210 or 510 and Computer Science 514, or consent of the instructor. Instructor: Chase, Cox, or Maggs. One course.


516. Data-Intensive Computing Systems. QS, R  Data-Intensive Computing Systems. Principles and techniques for making intelligent use of the massive amounts of data being generated in commerce, industry, science, and society. Topics include indexing, query processing, and optimization in large databases, data mining and warehousing, new abstractions and algorithms for parallel and distributed data processing, fault-tolerant and self-tuning data management for cloud computing, and information retrieval and extraction for the Web. Prerequisites: Computer Science 316 or an introductory database course or consent of instructor. Instructor: Babu or J. Yang. One course.


524. Nonlinear Dynamics. QS, R  One course. C-L: see Physics 513; also C-L: Modeling Biological Systems

527. Introduction to Computer Vision. Image formation and analysis; feature computation and tracking; image motion analysis; stereo vision; image, object, and activity recognition and retrieval. Prerequisites: Mathematics 221 or 216; Mathematics 230 or Statistical Science 230; Computer Science 101. Instructor: Tomasi. One course.

528. Introduction to Computational Science. QS  Introduction to scientific computing and its applications to facilitate interdisciplinary collaborative research. Brief intro to contemporary high performance computer architectures, basic linear algebra, numerical analysis, programming languages and widely available software packages. Study high performance algorithms in finite elements, fast transforms, molecular dynamics, high dimensional optimization, computational quantum mechanics and visualization. Parallel lab sessions by experts offer further specialization. Prerequisite: programming experience in Fortran or C, calculus, numerical linear algebra or equivalent. Instructor: Staff. One course.

530. Design and Analysis of Algorithms. QS  Design and analysis of efficient algorithms. Algorithmic paradigms. Applications include sorting, searching, dynamic structures, graph algorithms, randomized algorithms. Computationally hard problems. NP completeness. Prerequisite: Computer Science 201 or equivalent. Instructor: Agarwal, Edelsbrunner, Munagala, or Reif. One course.

532. Approximation Algorithms. QS  Cover traditional approximation algorithms with combinatorial and linear programming techniques; extended survey of cut problems and metric embeddings; embeddings,
dimensionality reduction, locality sensitive hashing, and game theory. Instructor: Agarwal or Munagala. One course.

534. Computational Complexity. QS Turing machines, undecidability, recursive function theory, complexity measures, reduction and completeness, NP, NP-Completeness, co-NP, beyond NP, relativized complexity, circuit complexity, alternation, polynomial time hierarchy, parallel and randomized computation, algebraic methods in complexity theory, communication complexity. Prerequisite: Computer Science 334 or equivalent. Instructor: Agarwal or Reif. One course.

550. Advanced Computer Architecture I. QS, R Fundamental aspects of advanced computer architecture design and analysis. Topics include processor design, pipelining, superscalar, out-of-order execution, caches (memory hierarchies), virtual memory, storage systems, simulation techniques, technology trends and future challenges. Prerequisite: Computer Science 250 or Electrical and Computer Engineering 350 or equivalent. Instructors: Board, Kedem, Lebeck, or Sorin. One course. C-L: Electrical and Computer Engineering 552, Modeling Biological Systems

554. Fault-Tolerant and Testable Computer Systems. One course. C-L: see Electrical and Computer Engineering 554

555. Probability for Electrical and Computer Engineers. One course. C-L: see Electrical and Computer Engineering 555; also C-L: Information Science and Information Studies, Modeling Biological Systems

561. Computational Sequence Biology. Introduction to algorithmic and computational issues in analysis of biological sequences: DNA, RNA, and protein. Emphasizes probabilistic approaches and machine learning methods, e.g. Hidden Markov models. Explores applications in genome sequence assembly, protein and DNA homology detection, gene and promoter finding, motif identification, models of regulatory regions, comparative genomics and phylogenetics, RNA structure prediction, post-transcriptional regulation. Prerequisites: basic knowledge algorithmic design (Computer Science 530 or equivalent), probability and statistics (Statistical Science 611 or equivalent), molecular biology (Biology 118 or equivalent). Alternatively, consent instructor. Instructor: Hartemink or Ohler. One course. C-L: Computational Biology and Bioinformatics 561

570. Artificial Intelligence. QS Design and analysis of algorithms and representations for artificial intelligence problems. Formal analysis of techniques used for search, planning, decision theory, logic, Bayesian networks, robotics, and machine learning. Prerequisite: Computer Science 201 and Computer Science 330. Instructor: Conitzer or Parr. One course.


579. Statistical Data Mining. QS One course. C-L: see Statistical Science 622

590. Advanced Topics in Computer Science. QS Instructor: Staff. One course.

630. Randomized Algorithms. QS, R Models of computation, Las Vegas and Monte Carlo algorithms, linearity of expectation, Markov and Chebyshev inequalities and their applications, Chernoff bound and its applications, probabilistic methods, expanders, Markov chains and random walk, electric networks and random walks, rapidly mixing Markov chains, randomized data structures, randomized algorithms for graph problems, randomized geometric algorithms, number theoretic algorithms, RSA cryptosystem, derandomization. Prerequisite: Computer Science 530. Instructor: Agarwal, Munagala, or Reif. One course.

634. Computational Geometry. QS Models of computation and lower-bound techniques; storing and manipulating orthogonal objects; orthogonal and simplex range searching, convex hulls, planar point location, proximity problems, arrangements, linear programming and parametric search technique, probabilistic and incremental algorithms. Prerequisite: Computer Science 530 or equivalent. Instructor: Agarwal or
636. **Computational Topology. QS** Introduction to topology via graphs; facts about curves and surfaces; representing triangulations; discussion of simplicial complexes; emphasis on Delaunay and alpha complexes and on homology groups; computational via matrix reduction; Morse functions; PL functions; Reeb graphs; development of persistent homology; proof of stability; applications and extensions. Prerequisite: Computer Science 530. Instructor: Edelsbrunner or Harer. One course. C-L: Mathematics 619

650. **Advanced Computer Architecture II. QS** Parallel computer architecture design and evaluation. Design topics include parallel programming, message passing, shared memory, cache coherence, cache coherence, memory consistency models, symmetric multiprocessors, distributed shared memory, interconnection networks, and synchronization. Evaluation topics include modeling, simulation, and benchmarking. Prerequisite: Computer Science 550 or Electrical and Computer Engineering 552 or consent of instructor. Instructor: Lebeck or Sorin. One course. C-L: Electrical and Computer Engineering 652, Modeling Biological Systems

662. **Computational Systems Biology. NS, QS, R** Provides a systematic introduction to algorithmic and computational issues present in the analysis of biological systems. Emphasizes probabilistic approaches and machine learning methods. Explores modeling basic biological processes (e.g., transcription, splicing, localization and transport, translation, replication, cell cycle, protein complexes, evolution) from a systems biology perspective. Lectures and discussions of primary literature. Prerequisites: basic knowledge of algorithm design (Computer Science 530 or equivalent), probability and statistics (Statistical Science 611 or equivalent), molecular biology (Biology 201L or equivalent), and computer programming. Alternatively, consent of instructor. Instructor: Hartemink or Ohler. One course. C-L: Computational Biology and Bioinformatics 662, Genome Sciences and Policy

663. **Algorithms in Structural Biology and Biophysics. NS, QS, R** Introduction to algorithmic and computational issues in structural molecular biology and molecular biophysics. Emphasizes geometric algorithms, provable approximation algorithms, computational biophysics, molecular interactions, computational structural biology, proteomics, rational drug design, and protein design. Explores computational methods for discovering new pharmaceuticals, NMR and X-ray data, and protein-ligand docking. Prerequisites: basic knowledge of algorithm design (Computer Science 530 or equivalent), probability and statistics (Statistics 611 or equivalent), molecular biology (Biology 118 or equivalent), and computer programming. Alternatively, consent of instructor. Instructor: Donald. One course. C-L: Computational Biology and Bioinformatics 663

664. **Computational Structural Biology. QS, R** Introduction to theory and computation of macromolecular structure. Principles of biopolymer structure: computer representations and database search; molecular dynamics and Monte Carlo simulation; statistical mechanics of protein folding; RNA and protein structure prediction (secondary structure, threading, homology modeling); computer-aided drug design; proteomics; statistical tools (neural networks, HMMs, SVMs). Prerequisites: basic knowledge algorithmic design (Computational Biology and Bioinformatics 230 or equivalent), probability and statistics (Statistics 611 and 721 or equivalent), molecular biology (Biology 118 or equivalent), and computer programming. Alternatively, consent of instructor. Instructor: Schmidler. One course. C-L: Computational Biology and Bioinformatics 550, Statistical Science 614

673S. **Computer Models and the Treatment of Psychiatric Disorders. NS, QS** One course. C-L: see Psychology 673S; also C-L: Information Science and Information Studies 673S, Pharmacology and Cancer Biology 673S

**THE MAJOR**

For the A.B. Degree

*Prerequisites.* Computer Science 101, Mathematics 111L, 112L or equivalents.
**Major Requirements.** Computer Science 201, 230, 250, 210, and 330. Three 200-level and above electives: one in Computer Science (not an independent study course) and two in either Computer Science (independent study possible), Electrical and Computer Engineering, Mathematics, Statistics, or a related area approved by the director of undergraduate studies.

For the previous curriculums, see: [http://www.cs.duke.edu/cseducation/undergrad/ba.html](http://www.cs.duke.edu/cseducation/undergrad/ba.html)

**For the B.S. Degree**

*Prerequisites.* Computer Science 101, Mathematics 111L, 112L, or equivalents.

*Major Requirements.* Computer Science 201, 230, 250, 210, and 330. Three 200- or 500-level electives in Computer Science (not independent study courses). Two courses at the 200-level and above in Computer Science (including independent study), Electrical and Computer Engineering, Mathematics, Statistics, or a related area approved by the director of undergraduate studies. Mathematics Mathematics 230 or a Statistics course at or above 111. Also one of Math 202, 216, 221, or 222.

For the previous curriculums, see: [http://www.cs.duke.edu/cseducation/undergrad/ba.html](http://www.cs.duke.edu/cseducation/undergrad/ba.html).

**Departmental Graduation with Distinction**

A program for Graduation with Distinction in computer science is available. Candidates for a degree with distinction, high distinction, or highest distinction must apply to the director of undergraduate studies and meet the following criteria. Candidates for Graduation with Distinction must have a grade point average of 3.0 or higher in computer science courses numbered above 200. Candidates must complete a substantial project, representing at least one year's work and including at least one independent study, under the guidance of a faculty member in computer science who oversees and endorses the project. The project should represent a significant intellectual endeavor including the writing of a report. A presentation of the project must be made to a committee of three faculty members, two of whom will normally be from computer science although for interdisciplinary projects this restriction can be relaxed. Graduation with high or highest distinction is awarded at the discretion of the faculty committee in consultation with the director of undergraduate studies. Graduation with high or highest distinction is typically awarded for projects that are of publishable quality. In addition, candidates for a degree with high or highest distinction should have a grade point average of 3.5 or higher in those computer science courses related to the area of research; these courses must include at least one course at the 500 level.

**THE MINOR**

**Computer Science**

Five courses in computer science (including the prerequisite), at least four of which must be at the 200 level or above.

*Prerequisites.* Computer Science 101, or equivalent.

*Requirements.* Computer Science 201 and 250. All 200-level and above courses count in meeting the minor requirements.

**Computational Biology and Bioinformatics**

*Prerequisites.* Mathematics 111L, 112L, and 100-level statistics course.

*Requirements.* Five courses at the 200 level or above (not including the prerequisites); three from Computer Science and two from Biology, as follows: Computer Science 201, Computer Science 260. One course from CompSci 220, 224, 270, or any 500-level course, or as approved by the director of undergraduate studies in computer science, e.g., an independent study in an area related to bioinformatics or computational biology. Biology 201L; one biology course from the following: 220, 251, 214L, 414LS, 556, 413L or as approved by the director of undergraduate studies in consultation with the director of undergraduate studies in biology.
Cultural Anthropology (CULANTH)

Professor Starn, Chair; Associate Professor Stein, Director of Undergraduate Studies; Professors Allison, Baker, Ho, Nelson, O’Barr, Piot, Silverblatt, and Starn; Associate Professors Litzinger, Meintjes, and Stein; Assistant Professors Makulu, McIntosh, and Solomon; Professors Emeriti Apte, Ewing, Friedl, and Quinn; Secondary Appointments: Professors Andrews (Slavic languages), Mignolo (romance studies), and Reddy (history); Associate Professor Tetel (English) and Wilson (Women’s Studies); Assistant Professors Holsey (African and African American Studies); Lecturer Thompson (documentary studies)

A major or minor is available in this department.

Cultural anthropology is a comparative discipline that studies the world's peoples and cultures. It extends perspectives developed from anthropology's initial encounter with the "primitive" world to studies of complex societies including rural and urban segments of the Global South and contemporary industrial countries, with an emphasis on power, identity, and social justice.

Cultural anthropologists at Duke concentrate on political economy, culture, ideology, history, mass media, and discourse, and the relations among them. These concerns lead them to such specific research and teaching interests as: colonialism and state formation; the politics of representation and interpretation; histories of race and racism; popular culture, music, film, and advertising; the bases of ideological persuasion and resistance; gender ideology; language use in institutional contexts; class formation and political consciousness; war, peace-making, and human rights, and the creation and use of ethnic and national identities. The department also offers courses that introduce the various traditional subfields and methods of cultural anthropology, and other, integrative courses on world areas. Faculty draw on their fieldwork in various geographic areas, with special strengths in Africa and the African diaspora, Latin America, Middle East, Japan, China, and the United States. Students without prerequisites for a course may ask the instructor for admission.

80S. Studies in Special Topics. SS Opportunities for first-year students to engage with a specific issue in cultural anthropology, with emphasis on student writing. Topics vary each semester offered. Instructor: Staff. One course.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

101. Introduction to Cultural Anthropology. CCI, CZ, SS Theoretical approaches to analyzing cultural beliefs and practices cross-culturally; application of specific approaches to case material from present and/or past cultures. Instructor: Staff. One course. C-L: International Comparative Studies 101

101D. Introduction to Cultural Anthropology. CCI, CZ, SS Same as Cultural Anthropology 101 except instruction is provided in lecture and discussion group each week. Instructor: Staff. One course. C-L: International Comparative Studies 101D, International Comparative Studies

105. Introduction to African Studies. ALP, CCI, CZ One course. C-L: see African and African American Studies 103; also C-L: History 129, Political Science 108


120. Alcohol and Culture. CCI, EI, SS Examination of cultural and social dimensions of alcohol use cross-culturally, with special attention to ethical issues surrounding control of alcohol use, frameworks for judging "abuse," and the political and social agendas of researchers and caregivers in a range of societies. Local field research (on and off campus). Instructor: Ewing. One course.

130. Anthropology and Film. SS The study of feature films and documentaries on issues of colonialism, imperialism, war and peace, and cultural interaction. An introduction to critical film theory and film production in non-Western countries. Instructor: Allison, Jackson, or Litzinger. One course. C-L: International Comparative Studies 104, Visual and Media Studies 130, Documentary Studies, Arts of the Moving Image, Marxism and Society
130D. **Anthropology and Film. SS** Same as Cultural Anthropology 130 except instruction is provided in lecture and discussion group each week. Instructor: Litzinger. One course. C-L: Arts of the Moving Image, Marxism and Society

131. **World Music: Aesthetic and Anthropological Approaches. ALP, CCI, CZ** One course. C-L: see Music 130; also C-L: International Comparative Studies, Documentary Studies

133S. **African Mbira Music: An Experiential Learning Class. ALP, CCI, CZ** One course. C-L: see Music 133S; also C-L: African and African American Studies 109S

137. **Music, Social Life, and Scenes. ALP, CCI, CZ, R, W** One course. C-L: see Music 137; also C-L: Documentary Studies

140. **Life in America: Identity and Everyday Experience. CCI, CZ, SS** How American culture shapes the everyday lives of people in the United States. Focus on two themes: cultural differences as well as similarities within and between ethnic groups, and the impact of history, large institutions, and global relations on all Americans. Instructor: Baker. One course.

150. **Fantasy, Mass Media, and Popular Culture. CCI, R, SS** A cross-cultural study of how images and stories that are mass produced affect the world view, identities, and desires of their consumers. Independent ethnographic research on a phenomenon in mass culture required. Instructor: Allison. One course. C-L: International Comparative Studies 105, Visual and Media Studies 105, Documentary Studies, Policy Journalism and Media, Study of Sexualities

160. **Anthropology and the Motion Picture. ALP, CCI, CZ** Study of the representation of non-US cultures in the genre of major motion pictures (as opposed to ethnographic film). Focus will be on films about Kenya, Italy, and the South Pacific. Examination of motives for foreign travel and experiences of living abroad as depicted in films. Consideration of how other cultures are romanticized and orientalized in movies. Films about each of the cases to be screened. Discussions focus on critical film reviews, issues of anthropological theory and the theory of representation, as well as students' own insights. Instructor: O'Barr. One course. C-L: Visual and Media Studies 160

160S. **Anthropology and the Motion Picture. ALP, CCI, CZ** Seminar version of Cultural Anthropology 160. Instructor: O'Barr. One course.

170. **Advertising and Society: Global Perspective. CCI, SS** History and development of commercial advertising; advertising as a reflector and/or creator of social and cultural values; advertisements as cultural myths; effects on children, women, and ethnic minorities; advertising and language; relation to political and economic structure; and advertising and world culture. Emphasis on American society complemented by case studies of advertising in Canada, Japan, Mexico, Russia, Western Europe, and selected other countries. Instructor: O'Barr. One course. C-L: Sociology 160, Linguistics 170, Visual and Media Studies 170, Canadian Studies, International Comparative Studies, Arts of the Moving Image, Markets and Management Studies, Policy Journalism and Media, Women's Studies

170D. **Advertising and Society: Global Perspective. CCI, SS** Same as Cultural Anthropology 170 except instruction is provided in lecture and discussion group each week. Instructor: O'Barr. One course. C-L: Sociology 160D, Linguistics 170D, Visual and Media Studies 170D, Markets and Management Studies

190A. **Duke-Administered Study Abroad: Introductory Special Topics in Cultural Anthropology. CCI** Topics differ by section. Instructor: Staff. One course.

190FS. **Special Topics in Focus.** Selected topics vary each semester. Open only to students in the Focus Program. Instructor consent required. Instructor: Staff. One course.

195. **Comparative Approaches to Global Issues. CCI, CZ, SS** One course. C-L: see International Comparative Studies 195; also C-L: History 103, Political Science 110, Religion 195, Sociology 195, Marxism and Society
202. Languages of the World. CCI, SS One course. C-L: see Linguistics 202; also C-L: Russian 362, International Comparative Studies 210

203. Marxism and Society. CZ, EI, SS One course. C-L: see Literature 380; also C-L: Education 239, Sociology 339, International Comparative Studies, Marxism and Society

204. Self and Society. CCI, SS The nature of human social identities, the contexts in which they are shaped, and the processes by which they change. May include an optional service-learning component. Instructor: Ewing. One course. C-L: Psychology 224, Women's Studies

205. The Law and Language. CCI, CZ, EI, SS One course. C-L: see Linguistics 205

206. Anthropology of Law. CCI, EI, SS Comparative approach to jurisprudence and legal practice, dispute resolution, law-making institutions and processes, and the relation of law to politics, culture, and values. Instructor: O'Barr. One course.

207. Anthropology of Sports. CCI, CZ, SS The role of sports in different cultures in the contemporary world. Dynamics of race, gender, sexuality, fantasy and desire, mythmaking and the culture of celebrity, commercial and mass media. Instructor: Starn. One course.

208. The Anthropology of Race. CCI, EI, SS Human variation and the historical development of concepts of race; science and scientific racism; folk-concepts of race; and the political and economic causes of racism; ethics of racism. Instructor: Staff. One course. C-L: African and African American Studies 251

208FS. The Anthropology of Race. CCI, EI, SS Same as Cultural Anthropology 208 but taught as part of the FOCUS program. Instructor: Baker. One course.

209. Sport As Performance. ALP, CCI, EI, SS One course. C-L: see Theater Studies 201; also C-L: Sociology 201

210. Global Culture. CCI, SS Globalization examined through some of its dominant cultural forms—the marketing of pop music, the globalization of TV culture, the spread of markets and commodities, the export of political ideologies. Special focus given to the way in which these forms both affect and are transformed by local cultures in Africa, South Asia, East Asia, and Latin America. Instructor: Allison, Litzinger, Piot, or Starn. One course. C-L: Visual and Media Studies 247, International Comparative Studies, Markets and Management Studies, Marxism and Society


212. Language and Society. CCI, SS One course. C-L: see English 395; also C-L: Linguistics 451, Slavic and Eurasian Studies 385

213. Cyborgs. CCI, SS, STS, W Philosophical, cross-cultural, historical, mass media, and political assumptions about what it means to be human that serve as the foundation for technological development. Instructor: Nelson. One course. C-L: Women's Studies 215, Policy Journalism and Media

214S. Shamanism and Spirit Possession. CCI, CZ, EI, R, SS One course. C-L: see Religion 213S; also C-L: History 215S

215S. Indian Civilization. CCI, CZ, EI, SS, W One course. C-L: see History 219S


222S. Sound in Social Life. ALP, CCI, STS Considers sonic environments as socially cultivated and sound production (recording, processing, mixing) and listening as cultural practices, shaped by acoustic space. Includes study of music, recorded soundscapes (films, games, installations, field recordings), built and ecological environments (rainforests, cities, institutions), and the history and use of sound technology (sound production, reproduction, reception, acoustic materials). Instructor: Meinjtes. One course. C-L: Music 239S

225. Magical Modernities. CCI, SS One course. C-L: see African and African American Studies 356
226. Espionage, Cryptology, Psyops. SS, STS One course. C-L: see Information Science and Information Studies 235

230D. The History of Emotions. CCI, CZ, R, W One course. C-L: see History 264D

231D. The History of Romantic Love. ALP, CCI, CZ, EI, W One course. C-L: see History 263D

232. Gender and Language. CCI, R, SS One course. C-L: see Russian 364; also C-L: International Comparative Studies 207, Women's Studies 232, Linguistics 364

233S. Documenting Religion. CCI, CZ One course. C-L: see Documentary Studies 338S; also C-L: Religion 251S, Visual and Media Studies 210S

234S. Anthropology and Education. CCI, EI, SS One course. C-L: see Education 234S


236S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change. CCI, SS One course. C-L: see Documentary Studies 332S; also C-L: Latino/a Studies in the Global South

237. Psychological Anthropology (C, D, P). CCI, SS Examines how culture is learned and expressed, and comes to be more or less compelling for individuals and more or less widely shared by them. Applies theory from psychoanalysis, child development studies, cognitive science, and psychological anthropology to cross-cultural ethnographic evidence. Considers, from a comparative perspective, topics including child rearing, the self and personality, emotion and motivation, gender and sexuality, language and thought, individualism versus collectivism, human universals and cultural variation. Prerequisites: none. Instructor: Ewing or Quinn. One course. C-L: Psychology 260

238S. Politics of Food: Land, Labor, Health, and Economics. ALP, CCI, EI, R One course. C-L: see Documentary Studies 341S; also C-L: Public Policy Studies 380


240S. The Anthropology of Hinduism: From Encounter to Engagement. ALP, CCI, CZ, R One course. C-L: see Religion 310S; also C-L: Documentary Studies, Ethics Courses Offered Through Other Departments

241. Culture and Politics in China. CCI, CZ, SS Introduction to the study of contemporary China, including Taiwan and the Chinese Diaspora. Key themes include family and kinship, sex and gender, regional diversity, ethnic minority relations, the politics of modernity, revolution, and reform, and the representation of Chinese identity through popular media, film, and travel. Instructor: Litzinger. One course. C-L: International Comparative Studies, Marxism and Society


243. Culture and Politics in Latin America. CCI, CZ, EI, SS Key themes in Latin American societies, including art, literature, history, violence and human rights, economic development, and rebellion and revolution. Instructor: Nelson or Starn. One course. C-L: International Comparative Studies 325, Documentary Studies, Marxism and Society

245. Culture and Politics of South Asia. CCI, CZ, SS Explores the politics, history, cultures, art, and literature of societies and nation-states across the South Asian continent. Focus on issues such as urbanization; internal/external migration; linguistic, religious, and ethnic identities and conflicts; the impact of colonialism, development, and globalization. Instructor: Ewing. One course. C-L: Asian & Middle Eastern Studies 259
Cultural Anthropology (CULANTH) 233

246S. Civil/Human Rights Activism: In the Spirit of Pauli Murray. ALP, CCI, CZ, R One course. C-L: see Documentary Studies 347S; also C-L: African and African American Studies 236S


249. Cross-Cultural Perspectives on Human Development: A View From Modern Day Japan and Asia (C,D). CCI, SS One course. C-L: see Psychology 241; also C-L: International Comparative Studies 213


251. Representing the Middle East. CCI, CZ, SS Diverse representations of the Middle East by communities inside and outside the region. Travelogues, films, photography, literature, newspapers/media and memoir from the late nineteenth-century Ottoman context to the modern Middle East. Readings on identity, orientalism, violence, gender, and (post) colonialism. Instructors: Goknar and Stein. One course. C-L: Asian & Middle Eastern Studies 345, History 213, Turkish 372, International Comparative Studies 362, Visual and Media Studies 250, Islamic Studies, Policy Journalism and Media

252. Muslims in the West. CCI, CZ, SS The varieties of Muslim experience in Europe and North America, with particular attention to local debates and controversies focused on Muslims, especially post 9-11. How the various situations of Muslim minorities can contribute to anthropological understandings of identity, ethnicity, and diaspora. How Muslim practices can affect Western common, unexamined understandings of religion, secularism, and the nature of human rights. Includes visits to local mosques. Instructor: Ewing. One course. C-L: Religion 385, Islamic Studies

253. Palestine, Israel, Arab-Israeli Conflict. CCI, EI, SS Introduction to Israeli and Palestinian culture, politics, and society and the central historical events of the Israel/Palestinian conflict. From early Zionist settlement in Palestine in the late nineteenth century and concluding with the 'Peace Process' of the 1990s, the second Palestinian uprising (Intifada), and the Israeli military reoccupation of the Palestinian territories. Ethics of both the Israeli occupation and the Palestinian resistance struggles against occupation. Instructor: Stein. One course. C-L: Asian & Middle Eastern Studies 319, Jewish Studies 283, Islamic Studies

254. Islamic Civilization I. CCI, CZ, EI One course. C-L: see Religion 375; also C-L: History 210, Medieval and Renaissance Studies 268, Information Science and Information Studies, Islamic Studies, Ethics Courses Offered Through Other Departments

255. Islamic Civilization II. CCI, CZ, EI One course. C-L: see Religion 376; also C-L: History 211, Medieval and Renaissance Studies 269, International Comparative Studies, Islamic Studies, Ethics Courses Offered Through Other Departments

256S. Our Culinary Cultures. ALP, CCI, W One course. C-L: see Documentary Studies 344S

260S. Africa and the Slave Trade. CCI, EI, SS One course. C-L: see African and African American Studies 313S


263. Black Europe: Race, Ethnicity and Diaspora in Contemporary Europe. CCI, CZ, EI, SS Exploration of the historical and contemporary presence and impact of the African diaspora throughout Europe. Course engages an anthropological examination of ethnographic texts, including examples of biography, film and visual culture. Instructor: McIntosh. One course. C-L: African and African American Studies 263
265. **Culture and Politics in Contemporary Europe: Citizenship, Migration, and National Belonging.** CCI, CZ, EI, SS
Critically examine current scholarship on the anthropology of Europe, and social and political theories concerning perplexities of identities, citizenship, nationalism, and national identity formation, with focus on related ethical questions and dilemmas. Instructor: McIntosh. One course. C-L: International Comparative Studies 236

269. **Black Gods and Kings: Priests and Practices of the Afro-Atlantic Religions.** CCI, CZ, EI, SS
One course. C-L: see Religion 270; also C-L: African and African American Studies 269

271. **Gender and Culture.** CCI, SS
Explanation of differing beliefs about gender cross-culturally, by comparison with dominant themes about gender in our own cultural history and contemporary ideological struggles. Instructor: Allison or Silverblatt. One course. C-L: International Comparative Studies 203, Women's Studies 217, Marxism and Society, Study of Sexualities, Women's Studies

272S. **Advertising and Masculinity.** CCI, SS
Gender representations in advertising, focusing on masculinity. Consideration also given to representations of femininity in advertising, to the nature and complexity of gender, and to the history and place of advertising in society and culture. Case materials drawn primarily from contemporary American advertising, with examples from other time periods and other national advertising traditions. Consent of instructor required. Instructor: O'Barr. One course. C-L: Markets and Management Studies, Policy Journalism and Media, Women's Studies

274D. **Global France.** ALP, CCI, CZ, EI
One course. C-L: see French 480D; also C-L: History 274D

275. **Culture and Politics in Native America.** CCI, CZ, EI
Past and contemporary conditions of American Indian life, with an emphasis on North America. Social and political organization, gender relations, changing economic patterns, cultural themes and variations, spirituality, the effects of anti-Indian wars, policies, and prejudice, and the emergence of movements for self-determination. Instructor: Starn. One course.

290. **Current Issues in Anthropology.** Selected topics in methodology, theory, or area. Instructor: Staff. One course.

290A. **Duke-Administered Study Abroad: Special Topics in Cultural Anthropology.** CCI
Topics differ by section. Instructor: Staff. One course.

290S. **Current Issues in Anthropology.** Same as Cultural Anthropology 290 except instruction is provided in seminar format. Instructor: Staff. One course.

291. **Independent Study.** Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic product. With consent of instructor and director of undergraduate studies. One course. Instructor: Staff. One course.

293. **Research Independent Study.** R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. With consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

301. **Theoretical Foundations of Cultural Anthropology.** CCI, SS
Major schools and theories of cultural anthropology. Open to seniors and juniors. Sophomores by permission only. Instructor: Staff. One course. C-L: International Comparative Studies, Marxism and Society

302. **Fieldwork Methods: Cultural Analysis and Interpretation.** EI, R, SS, W
Anthropology as a discipline (a field of study) and the site where anthropologists work: the field. Combines theories of anthropological fieldwork methods with practice, including participation, observation, and interviews. Students undertake original research in a local fieldsite of their choice and produce their own mini-ethnography. This requirement may also be satisfied by taking Cultural Anthropology 290A Duke in Ghana Anthropological Field Research. Instructor: Staff. One course. C-L: Global Health

305. **The African Diaspora.** CCI, CZ, SS
One course. C-L: see African and African American Studies 305; also C-L: International Comparative Studies

308T. BorderWork(s): At Home/On the Wall: between Belfast and Durham. CCI, CZ, R, W BorderWork(s)lab course. Working in teams, students research specific questions related to walls, human rights and the ways communities shape the divisions in their lives; we start by looking at walls and partitions around us in Durham and in places like Belfast, Northern Ireland, then at divisions in other contemporary societies like Israel and the Occupied Territories, India/Pakistan, and North Africa. Instructor: Kirk. One course. C-L: see International Comparative Studies 395T

311S. Gender and Sexuality in Africa. CCI, SS One course. C-L: see African and African American Studies 311S; also C-L: Women's Studies 288S

314. Representing Slavery. ALP, CCI, EI, SS One course. C-L: see African and African American Studies 314; also C-L: Visual and Media Studies 326, International Comparative Studies 212


333S. The Wire. CCI, EI, SS One course. C-L: see African and African American Studies 333S

334. Traffic in Women: Cultural Perspectives on Prostitution in Modern China. ALP, CCI, SS One course. C-L: see Asian & Middle Eastern Studies 333; also C-L: Women's Studies 233, Study of Sexualities 233, Arts of the Moving Image 270

340. Anthropology and Public Policy. CZ, EI, SS Explore legacy of anthropological policy research to get a sense of its conflicts and contributions, since the end of the 19th century to the present. Survey anthropological inquiry into development, migration, global agriculture, indigenous peoples’ advocacy, public health, gender, human rights, and bioethics. Ethnographically examine how policy makers construct policy problems to be solved in particular ways, and discuss and critique anthropological approaches to understanding these problems. Instructor: McIntosh. One course. C-L: Public Policy Studies 226

341. Survival in Precarious Times. CCI, CZ, EI, SS Examines contemporary conditions (economic, environmental, militaristic, social) of risk in the world today, the differential effects this has on segments of the population, and various strategies people adopt to survive. Explores these issues in terms of real-life subjects’ migration, homelessness, addiction, wartime, cancer, joblessness in cross-cultural comparison: W. Africa, Japan, the U.S., India, China. Instructor: Allison. One course.

343A. Themes in Chinese Culture and History. CCI, CZ, SS An interdisciplinary approach to explore political, social, and cultural issues, both historical and contemporary, in China. (Taught in China) Instructor: Staff. One course. C-L: History 224, Political Science 298A, International Comparative Studies

355S. Documentary Film/Video Theory and Practice. ALP One course. C-L: see Arts of the Moving Image 330S; also C-L: Visual and Media Studies 273S, Documentary Studies

365S. The World of Japanese Pop Culture. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 365S

366. Trauma and Space in Asia. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 410

367D. Mayas, Aztecs and Incas: The World According to the Indigenous People of Latin America. CZ, EI, R One course. C-L: see Spanish 412D; also C-L: International Comparative Studies 460D, Latino/a Studies in the Global South 412D
236 Courses and Academic Programs


393A-1. Research Independent Study on Contemporary China. R Research and field studies culminating in a paper approved and supervised by the resident director of the Duke in China Program. Includes field trips on cultural and societal changes in contemporary China. Offered only in the Duke in China Program. Instructor: Staff. One course.

395AS. Environment, Health, and Development in China. CCI, EI, SS, STS Critical overview and investigation of the culture, politics, and political economy of environment, health, and development issues in contemporary China, with special attention to case studies exploring a range of issues from public health panics, HIV and AIDS, sex work, migrant workers, the Beijing Olympics, water politics, earthquake relief, and environmental protest. Includes readings across disciplines, and engagement with the work of government, academic, multilateral and non-governmental groups. Instructor consent required. Course taught in China as part of the Global Study Abroad Program. Instructor: Litzinger. One course. C-L: Global Health Certificate 383AS, Political Science 299SA, Ethics Courses Offered Through Other Departments

396AS. Health Policy in Transition: Challenges for China. CCI, EI, SS, STS Critical introduction to the dynamics and challenges of health policy in China, from the early twentieth century to the present, with a particular focus on the reform period. Topics to be addressed: health care and economic development, state responsibility and welfare systems, privatization, and disparities in access to health services; history of state policy on regional health planning, community health services, rural health provisions in poverty areas, and the developments in public health infrastructure urban and rural settings. Instructor consent required. Course taught in China as part of the Global Study Abroad Program. Instructor: Guo. One course. C-L: Global Health 397S. Language in Immigrant America. ALP, CCI, R One course. C-L: see English 396S; also C-L: Linguistics 396S, Slavic and Eurasian Studies 396S

399S. Global Russia. CCI, CZ, EI, SS One course. C-L: see Russian 399S; also C-L: Public Policy Studies 201S

403S. Politics and Obligations of Memory. CCI, CZ, EI, SS Explores political contexts, and often competing visions, surrounding construction and reproduction of public memory. Asks how sites of memory, presenting an image of the past, express understandings, desires, and conflicts of the present. Particular focus on how times of crisis and trauma are commemorated, challenged, or hidden. Open only to juniors and seniors. Instructor: Silverblatt. One course. C-L: History 395S

404. Asians in the United States. CCI, EI, SS Exploration of contours of Asian migration to the U.S. against the backdrop of the social and political transformations in American society from the mid-19th century to the present. Considers how Asian Americans have been constituted by world-historical processes and have constituted themselves as social and political actors. Instructor: Subramanian. One course.

405. Religion and Social Transformation in South Asia. CCI, EI, SS Considers the making of religious identity in colonial and postcolonial South Asia and contemporary debates over secularism, conversion, and citizenship. Some key issues: the relationship between religious identity and state formation; the role of religion in the modern public sphere; the relationship between religious community and democratic participation. One course. C-L: Religion 225, Islamic Studies

416S. Capstone Seminar: Imperialism and Islamism. CZ, R, SS One course. C-L: see History 453S; also C-L: Islamic Studies

417S. The Middle East in Popular Culture. CCI, CZ, SS Popular culture in the Middle East and images of the Middle East in United States' popular culture, covering a variety of cultural forms, including film, music, and comic books. How cultural forms relate to political and historical processes. Wars and political conflicts;


419S. Global Environmentalism and the Politics of Nature. **CCI, CZ, SS, STS** Exploration of several themes: how local, national, and transnational organizations manage the environment, discuss it, study it, protect and defend it; who speaks for nature and to what ends; the differences between capitalist and socialist approaches to the environment; how relations among natures, nations, social movements, individuals, and institutions have changed over time. Case studies from Africa, East and Southeast Asia, India, Latin America, and the United States; study of new theoretical writing on the relationship between humans, technology, capital, and nature. Instructor: Litzinger. One course. C-L: Information Science and Information Studies

420S. The Inca Empire and Colonial Legacies. **CCI, CZ, SS** Focus on the history of the Inca empire, its complex economic organization, ecologically sensitive use of environmental resources, sophisticated political and religious structures, and magnificent architecture and material culture. How the empire's descendents accommodated and challenged the forces of Spanish colonialism. Instructor: Silverblatt. One course. C-L: History 401S

422. Myth, Ritual, Symbol. **CCI, CZ, SS, W** Cross cultural examination of roles of myths, rituals, and symbols in meaning-making, creation of identity, reproduction of cultural forms and challenges to the construction of "normal." Draws on ethnography, classical anthropological theory, film and participant-observation. Explores functionalist, psychoanalytic, structuralist, and feminist modes of analysis. Culture areas include Ndembu of Zambia, Maya of Guatemala, Turkish village life, Nazi Germany, and present-day United States. Instructor: Nelson. One course.

423. Sex and Money. **CCI, SS** Sexual practices that involve transactions of money in different cultural and historical settings, including "regular" marriage practices that involve exchanges of money and goods as well as extramarital practices where one party is selling bodily acts. Examination of the ethics and politics of these exchanges questioning who benefits from them (and who not) and how to also assess other bodily transactions including prostitution and surrogacy. Reading materials on sexual practices in different cultural contexts (including Tonga, Thailand, Brazil, India, Ghana, China, Japan, Russia, Turkey, Indonesia). Comparisons made in terms of culture, religion, ethical systems, politics, and economy. Instructor: Allison. One course. C-L: Islamic Studies, Marxism and Society


425. Globalization and Anti-Globalization. **CCI, CZ, SS** The politics and process of globalization in light of the responses, ideologies, and practices of the anti-globalization movement. Focus on the interrelationship between the analysis of globalization and policy formulation on such topics as social justice, labor, migration, poverty, natural resource management, and citizenship. Case studies from the United States, Latin America, South and East Asia, Africa, and Europe. Instructor: Litzinger. One course. C-L: International Comparative Studies 404, Markets and Management Studies

426S. Anthropology of Space. **CCI, SS** Explores relationship between space and culture; ways in which communities make and negotiate space; space both a locus of control and a tool of resistance, as well as other
issues. Interdisciplinary readings include scholarship from anthropology, geography, critical theory, history, and literary studies. Topics include identity formation, globalization, migration, popular culture, race and racism, gender and sexuality with attention to the ways that space and place intersect with these issues. Instructor: Stein. One course. C-L: Literature 235S, Women's Studies 280S, Islamic Studies

427S. The Invention of Ethnography. CCI, SS Focus on Bronislaw Malinowski and his role in the invention of the ethnographic method through his fieldwork in the Trobriand Islands in the early decades of the 20th century. Malinowski's publications examined in the light of the tradition of ethnography they spawned. Malinowski's biography, field notes, and diaries will be considered as will more recent criticisms of Malinowski and the ethnographic method itself. Instructor: O'Barr. One course.

428S. Doing Good: Anthropological Perspectives on Development. CCI, EI, R, SS Course will move through the evaluation of the impact of development projects to consider the role of development as a global phenomenon that affects both what it means to be American and how the `other' is constructed. Instructor: Mathers. One course. C-L: International Comparative Studies 401S, Public Policy Studies 210S

429. Gender and Sexuality in Latin America. CCI, CZ, SS Gender and sexuality as strands within complex fabrics of identification. Anthropological case studies, including ethnography, film, and theoretical analyses, drawn from Latin America; the possibility of specific gender formations in that geographical region. Relations among men, women, "cochones," "machos," "virgenes," "Malinches," "mestizos," "mujeres Mayas," "travestis," revolutionaries, gringos and gringas, throughout the whole continent of the Americas. How gender and sexuality affect and are affected by other forms of identification such as race and ethnicity, class, colonialism, nationalism, and globalization. The role of stereotypes. Instructor: Nelson. One course. C-L: Women's Studies 429, International Comparative Studies 426, Latin American Studies, Marxism and Society, Study of Sexualities

430S. Travel, Gender, and Power. CCI, SS Nineteenth-century travel and imperialism; contemporary tourism; the relationship between leisure and power, globalization and consumption, the role of gender, sex and exploitation. Instructor: Stein. One course. C-L: Asian & Middle Eastern Studies 401S, Women's Studies 430S, Islamic Studies

431. Diasporic South Asia. CCI, SS Explores histories of migration from South Asia and the cultural politics of identity and rights in a variety of host societies including, Malaysia, South Africa, Fiji, Trinidad, Uganda, United Kingdom, and the United States. Instructor: Subramanian.

431S. Global Tibet. CCI, CZ, EI, SS Exploration of Tibet in regional, national, and global perspective, from the nineteenth century to the present; critical appraisal of the Tibet Question, the global image of Tibet as a mystical and utopian Shangri-la; and the geopolitical and socioeconomic dimensions of social movements to know, develop, free, save, and defend Tibet. Course materials draw from anthropology, history, international politics, film and popular culture, novels, web sites and blogs. Previous knowledge of Tibet and China, and theories colonialism, imperialism, nationalism, and post-colonialism. Permission of instructor required. Instructor: Litzinger. One course. C-L: Asian & Middle Eastern Studies 485S

432S. Gender, Sex and Citizenship. CCI, EI, SS Explore current issues and debates relating to the relationship between gender, sexuality and global flows of people, labor, capital and ideas. Consider feminist analyses of the citizen-subject and foundational questions central to this area of study relationship between cultural representation, queer subjectivities, and sexual citizenship. Examine scholarship on gendered vulnerability and the welfare state; the politics of `terror', security, and stereotyped masculinities; domestic labor and contemporary slavery; and the controversial debates about the connections between sex tourism, human trafficking and commercial sex work. Prereq: Previous gender studies course or consent of the instructor. Instructor: McIntosh. One course. C-L: Study of Sexualities 432S, Women's Studies 432S

433S. Childhood in Theory and Practice. CCI, EI, SS Critical examination of childhood as both a social construction and a diversely lived experience linked to notions of race, class, gender and national identity. In addition to examining how they function as objects of moral panics and political projects, we will also approach
children as agents of change. We will consider topics such as education, human rights, child labor, consumerism, media, and adoption. Instructor: Campoamor. One course.

434S. Cultures of New Media. ALP, SS, STS Anthropological look at 'new media' their varied forms and histories, how they are used and understood, and their meanings and effects within different communities of users. Charts a number of technologies deemed 'new' in their day and the social meanings and communities that such technologies generated. Explores new media in domains of art and literature, as well as issues of race, gender, sexuality and how other indices of difference come to bear on new media and its use. Grounded in anthropology, readings will also draw on media studies, visual studies, cultural studies and critical theory, queer and gender theory, history and geography. Instructor: Stein. One course. C-L: Literature 412S, Visual and Media Studies 412S

465S. Global Cities. CCI, EI, SS One course. C-L: see African and African American Studies 465S; also C-L: International Comparative Studies 465S

498S. Senior Seminar Distinction Program Sequence. R No credit for Cultural Anthropology 498S without satisfactory completion of Cultural Anthropology 499S. Consent of director of undergraduate studies required. Instructor: Staff. One course.

499S. Senior Seminar Distinction Program Sequence. W Continuation of Cultural Anthropology 498S, and required for credit for 498S. Consent of director of undergraduate studies required. Instructor: Staff. One course.

501S. Anthropology and History. SS Recent scholarship that combines anthropology and history, including culture history, ethnohistory, the study of mentalité, structural history, and cultural biography. The value of the concept of culture to history and the concepts of duration and event for anthropology. Prerequisite: major in history, one of the social sciences, or comparative area studies; or graduate standing. Instructor: Reddy. One course. C-L: History 572S

520S. Anthropology and Psychology (C, P). CCI, SS Cross-cultural approaches to the psyche, including applications of social psychology, psychoanalysis, and trans-cultural psychiatry to anthropological questions such as culturally expressed psychic conflicts and pathologies, gender and sexuality, communication, rationality, affect, and motivations. Instructor: Staff. One course. C-L: Psychology 628S

525S. Culture, Power, History. CCI, SS Debates in cultural theory and anthropology: identity and nationalism, memory and tradition, globalization, and poststructuralist, feminist and postcolonial theory. Some previous coursework in anthropology and or cultural theory recommended. Instructor: Starn and Stein. One course.

530S. Millennial Capitalisms: Global Perspectives. CCI, CZ, R, SS Critical examination of the problematic of capital from the late nineteenth century until the present moment. Anthropological frameworks and related disciplinary approaches to the multiple cultural productions and lived experiences under divergent forms of capitalism in the new millennium. Focus on East Asia. Theories of capitalism, globalization and anti-globalization movements, "imaginaries" and fantasies, nature and the virtual, consumption, and disciplinary practices of the body. Instructors: Allison and Litzinger. One course. C-L: International Comparative Studies 545S


540S. Masculinities. CCI, CZ, R, SS How masculinities are constructed, performed and inhabited. Theorization of the masculine subject in sociocultural, political and psychodynamic terms within colonial and modernizing contexts. Issues of gendered citizenship. Role of scholarship and the media in constituting hegemonic, subaltern, ethnic, female, and stigmatized masculinities. Instructor: Ewing. One course. C-L: Women's Studies 581S
545S. **Transnationalism and Public Culture.** CCI, SS Critical examination of issues in transnational studies in anthropology and beyond. Tracking the theories of contemporary scholars of the global, and examining new multisited strategies of method, we explore the emerging ethnographic landscape of the global and the role transnational studies is playing in a revitalized anthropology of the twenty-first century. Instructor: Piot. One course.

555S. **Development, Modernity, and Social Movements.** CCI, SS Modernization and ideologies of progress and nationalism; social movements, revolution, and political protest in the United States and around the world. Some prior background in cultural anthropology or social theory preferred. Consent of instructor required for undergraduate students. Instructor: Starn. One course.

560S. **African Modernities.** CCI, SS One course. C-L: see African and African American Studies 645S; also C-L: International Comparative Studies

565. **The World of Japanese Pop Culture.** ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 565; also C-L: International Comparative Studies

570S. **Ethnohistory of Latin America.** CCI, CZ, R, SS Analysis of what can be known about nonwestern cultures described in texts written by European colonizers. Focus on native peoples whose lives were transformed by Spanish colonialism, with particular attention to post-Inca Andean Societies. Instructor: Silverblatt. One course. C-L: History 540S, Literature 573S

590. **Selected Topics.** Special topics in methodology, theory, or area. Instructor: Staff. One course.

590S. **Seminar in Selected Topics.** Same as Cultural Anthropology 590 except instruction provided in seminar format. Instructor: Staff. One course.

594S. **Cultural (Con)Fusions of Asians and Africans.** CCI, CZ, SS One course. C-L: see African and African American Studies 594S; also C-L: Latin American Studies 594S, Sociology 594S

605. **East Asian Cultural Studies.** ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 605; also C-L: Literature 571, International Comparative Studies

611S. **Global Mental Health.** CCI, NS, R, SS, STS One course. C-L: see Global Health Certificate 560S; also C-L: Psychology 611S

THE MAJOR

**Major Requirements.** A total of ten courses distributed in the following manner: Cultural Anthropology 101, 301, and 302; six courses at the 100 level or above, including at least one at the 400 level or above; one additional cultural anthropology course at any level. Students must take at least five of their ten courses with instructors whose primary appointment is in the Department of Cultural Anthropology. No more than three courses may be transferred from other institutions or study abroad.

**Suggested Work in Related Disciplines.** Related courses in other departments are strongly advised. Each student's advisor will recommend a program of related work to complement the student's concentration and interests in cultural anthropology.

**Departmental Graduation with Distinction.**

The department offers an intensive and personalized Graduation with Distinction program to qualified seniors, who research and write a senior thesis on a topic of their own choice in close collaboration with members of the cultural anthropology faculty. Admission to the program requires a 3.0 grade point average overall and a 3.3 grade point average in the major, both of which must be maintained to graduation for the student to be eligible for distinction. Qualified juniors will be notified each year by the director of undergraduate studies about their eligibility. To pursue distinction, students must then enroll in the senior seminar, Cultural Anthropology 498S and Cultural Anthropology 499S, in the fall and spring of their senior year, where they will learn about research methods and prepare a thesis. Credit for Cultural Anthropology 498S and Cultural Anthropology 499S is given for a passing grade whether or not the student is awarded distinction. The thesis can be based on original fieldwork on a topic of the student's choice, archival or library research, or some combination of various anthropological methods. Previous topics have ranged from studies
of the influence of feminism in cultural anthropology to causes of revolution in Latin America, patterns of socialization of Mormon youth in Utah, music in the African diaspora (drawing on summer study in Ghana), and the consolidation of Korean-American identity through the 1992 Los Angeles rebellion. The student also forms a supervisory committee for the thesis during the fall of the senior year. It should consist of three faculty members who offer the student advice and support in preparing the thesis. At least two of the members must be faculty from the cultural anthropology department. Due in April of the senior year, the thesis must be judged of at least B+ quality by the supervisory committee to receive distinction. In addition, the student must pass an oral examination on the thesis, which is given on its completion by the supervisory committee, and present their findings to the public. Students who fulfill the above requirements graduate with distinction in cultural anthropology.

A typical sequence would be: select a research topic; take the senior seminar in fall and spring; form a supervisory committee; complete the research and writing by April and submit the final draft to the supervisory committee; schedule the oral defense for some time in early or mid-April; defend the thesis in an oral examination given by the supervisory committee.

THE MINOR

Requirements. A total of five courses distributed in the following manner: Cultural Anthropology 101; three courses at the 200 level or above; and one additional course at any level (this may include courses taken in the Focus Program).

Dance (DANCE)

Associate Professor of the Practice Khalsa, Director of the Program; Professor of the Practice Dickinson, Director of Undergraduate Studies; Professor DeFrantz; Associate Professor of the Practice of Ballet T. Walters; Associate Professors of the Practice Shah and Vinesett; Assistant Professors of the Practice J. Walters and Woods Valdés; Professor of the Practice Emeritus Taliaferro; Associate Professor of the Practice Emeritus Dorrance

A major or a minor is available in this program.

The field of dance includes the practice, creation, observation, and analysis of theatrical, social, and culturally specific dance forms both contemporary and historical. Choreographic and developmental processes and technical disciplines are the foundations that define every dance form. Cultural body behaviors are the movement vocabularies from which dance forms are made. The observation and analysis of dance in its cultural context is central to the study of cultures and a vital aspect of exploration in cross-cultural inquiry. A culture's values are embodied (literally and figuratively) in its dance forms, and for most civilizations of the world, dance is one of the most important expressions of their world-view.

Because dance integrates the physical, creative, emotive and intellectual spheres, the Dance Program emphasizes a balanced integration between the creative/performance and the historical/theoretical aspects of dance, and provides a learning environment that challenges the student's intellectual, expressive, and physical capabilities. The aim of the program is to develop students who are sensitive and articulate physical and verbal communicators of the visual art of dance and who are proficient in the analysis of dance in its cultural manifestations.

Courses in technique and performance (partial credit courses) and theory courses (full course credit) are offered. Courses in technique and performance may be repeated for credit. A maximum total of four course credits (made up of partial credit courses) in technique and performance courses may count toward the thirty-four courses required for graduation.

Students are encouraged to enroll in a summer session with the American Dance Festival. One course credit earned at the American Dance Festival may be counted toward the requirements of the major or minor.

Through the Duke in New York Arts Program a student has the opportunity in the fall semester of the junior or senior year to pursue the study of dance in New York City. Appropriate courses taken at New York University may fulfill a requirement of the major or minor.
COURSES IN TECHNIQUE AND PERFORMANCE (HALF-CREDIT COURSES)

110. Modern Dance I. A movement course exploring modern dance through technique, improvisation, and composition. No previous dance experience necessary. Instructor: Dickinson, Khalsa, or staff. Half course.

111. Modern Dance II. Prerequisite: Dance 110 or equivalent. Instructor: Dickinson, Khalsa, Woods Valdés, or staff. Half course.


121. Ballet I. Barre work concentrating on body alignment and correct placement within the ballet vocabulary followed by center adagio and allegro sequences. Prerequisite: a semester of ballet or equivalent. Instructor: Walters. Half course.

122. Ballet II. Barre work concentrating on body alignment and correct placement within the ballet vocabulary followed by center adagio and allegro sequences. Prerequisite: Dance 121 or equivalent. Instructor: Walters. Half course.

130. African Dance Technique I. Introduction to African dance styles and related rhythmic structures from selected countries such as Guinea, Senegal, Nigeria and Cote d'Ivoire. Taught in the context of their social, occupational, and religious functions. Instructor: Vinsett, Johnson, or staff. Half course.

131. Capoeira: Brazilian Dance/Martial Art. Introduction to Capoeira, the dynamic art form that emerged in Brazil during the era of the Atlantic Slave Trade and blends music, ritual, acrobatic movement, and combat. Instructor: Staff. Half course.

132L. African Dance Percussion. Practice in rhythms and techniques of selected West African, Afro-Brazilian and Haitian percussion. Integration of music and dance will be a focal point, experienced through live accompaniment of African dance. Includes two sessions per week, one with the instructor, and one with the dance class. Instruments include dun-dun, djembe, atabaques, congas and bells. Half course. Instructor: R. Vinesett. Half course. C-L: Music 101L-6


141. Swing Dance. A studio course to learn the "lindy-hop" (jitterbug) and a variety of related steps and partnering including simple lifts. Instructor: Badu. Half course.

142. Hip Hop I. Hip-Hop, an inner-city culture that has created its own art, language, fashion, music and dance styles. This is a beginning level of Hip Hop dance. Using dance as a time-line the course explores the history, development and core elements of hip-hop dance culture. Instructor: Staff. Half course.


160. Somatic Methods. Somatic Methods and Experiential Anatomy. An introduction to exploring anatomical parts of the body by moving and initiating movement through space. Investigations include postural and limitation concerns, interpretation and expression, qualities of movement and being, inner and outer awareness, and the use of different Somatic methods including Laban Movement Analysis, Qi Gong, Alexander Technique, Pilates, Body-Mind Centering and Ideokinesis. Useful to students of dance, music and theater and as a basis for inspiration and improvisation. Instructor: Staff. Half course.

210. Modern Dance III. Increased complexity of movement sequences and greater emphasis on clarity of expression and quality of performance. Prerequisite: Dance 111 or equivalent. Instructor: Dickinson, Khalsa, Woods Valdés, or staff. Half course.

220. Ballet III. Greater complexity of barre and center sequences with increased emphasis on correctness of style and quality of performance. Prerequisite: Dance 122 or equivalent. Instructor: Walters or staff. Half course.
230. **African Dance Technique II.** Continuation of Dance 130. Dances from selected African ethnic groups providing increasingly complex movement sequences and rhythmic structures. Emphasis on greater technical proficiency, clarity of expression and quality of performance. Taught in the context of their social, occupational and religious functions. Prerequisite: Dance 130 or consent of instructor. Instructor: Vinesett. Half course.

240. **Jazz Dance II.** Prerequisite: Dance 140 or equivalent. Instructor: Wheeler. Half course.

242. **Hip Hop II.** Hip-Hop, an inner-city culture that has created its own art, language, fashion, music and dance styles. This is the second level of Hip Hop dance and requires previous dance experience with the form. Using dance as a time-line the course explores the history, development and core elements of hip-hop dance culture. Instructor: Staff. Half course.

261. **Intermediate/Advanced Tap Dance.** Prerequisite: previous training at the intermediate level. Instructor: Medler or DeFrantz. Half course.

280. **Individual Dance Program: Special Topics.** An individualized program of study of dance technique from existing class sessions. Consent of instructor required. Half course.

310. **Modern Dance IV.** Continuation of Dance 210. Prerequisite: Dance 210 or equivalent. Instructor: Dickinson, Khalsa, Woods Valdés, or staff. Half course.

320. **Ballet IV.** Progression of Dance 220 with increased emphasis on line, style, and performance-level quality and technique. Diverse batterie, pirouettes, and tours included in allegro combinations. Prerequisite: Dance 220 or equivalent. Instructor: Walters or staff. Half course.

321. **Pointe and Variations: Advanced Study of Pointe Work for Ballet.** Classical and contemporary pointe technique and variations. Refinement of the classical style and the exploration of contemporary studies en pointe in the ballet lexicon. Training in and analysis of the principles of classical and neoclassical variations and their historical and aesthetic context. Development of interpretative skills, enhancement of style and performance qualities through coaching and informal showings. Prerequisite: Dance 220 or Dance 320 or Dance 420 or permission of instructor. Instructor: Walters. Half course.

390L. **Special Topics. ALP** Content to be determined each semester. Consent of instructor required. Instructor: Staff. One course.

410. **Modern Dance V.** Prerequisite: Dance 310 or equivalent. Instructor: Dickinson, Khalsa, Woods Valdés, or staff. Half course.

412. **Repertory: Modern.** The study of choreography and performance through participation in the mounting of a dance work from inception through rehearsal to performance. Consent of instructor required. Instructor: Dickinson, Khalsa, Woods Valdés, or staff.

420. **Ballet V.** Continuation of Dance 320. Daily training for the performing student at the advanced/professional level. Prerequisite: Dance 320 or equivalent. Instructor: Walters or staff. Half course.

422. **Repertory: Ballet.** The study of choreography and performance through participation in the mounting of a dance work from inception through rehearsal to performance. Consent of instructor required. Instructor: Walters or staff. Half course.


442. **Repertory: Jazz Dance.** Study of choreography and performance through participation in the mounting of a dance work in the jazz idiom from inception through rehearsal to performance. Consent of instructor required. Instructor: Wheeler or Staff. Half course.

THEORY COURSES

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

101. Introduction to Dance. ALP, CCI Dance as a reflection of historical and current cultural values. Introduction to some of the major forms of world dance (for example, classical dances of Europe, Asia and Africa, and American modern dance); how dance forms illuminate and define gender, personal and group identity, political and religious status, aesthetic values, and the intentions of the dance-makers; dance as an educative force, a facilitator of cultural acquisition, and a reflection of cultural change; the function of dance in various cultural settings; how to look at dance, to analyze movement, and to read the text of dance structure. Instructor: Dickinson or Shah. One course. C-L: International Comparative Studies 102

105S. Dance Composition. ALP, R The basic elements of movement (time, space, weight, flow) and their choreographic applications explored through structured improvisation, short movement studies, viewing of videotaped dances, and selected readings. Experimentation with devices for movement manipulation and choreographic forms through longer movement studies. Prerequisite: a beginning level dance technique course (modern, ballet, jazz, or African) or consent of instructor. Instructor: Dickinson, Khalsa, or Woods Valdés. One course.

195FS. The Art of Transformation: A Workshop in Movement and Theater. ALP One course. C-L: see Theater Studies 195FS

205T. Advanced Dance Composition. ALP, R Continuation of the basic elements of movement, choreographic devices and forms explored in Dance 105S. The use of props, sets, lighting and costuming; the relationship of music to dance. Choreographing and directing ensembles. Prerequisite: Dance 105S or consent of instructor. Instructor: Dickinson or Khalsa. One course.

206S. Solo Performance. ALP, W One course. C-L: see Theater Studies 340S

207S. Performance and Social Change. ALP, EI Service learning course based on the body of work of Brazilian theater director, writer, activist and legislator Augusto Boal. Examination of Boal's ideology and philosophy of "liberatory" theater and physical and vocal exploration of Boal's "arsenal" of theater techniques. Service learning teams work with community groups of middle and high school students to develop and perform interactive Forum theater. Instructors: Khalsa and Royals. One course. C-L: Theater Studies 204S

208. Contemporary Performance. ALP, R Workshop/Exploration of modes of contemporary performance including dance theater, live art, participatory events including flash mobs, and immersive theater. Histories and theories of contemporary performance explored, along with the practice of visiting artists. Students create brief performances as part of coursework. Instructor: DeFrantz. One course. C-L: African and African American Studies 229, Theater Studies 208, Art History 229

255. T'ai Chi and Chinese Thought. CCI, CZ One course. C-L: see Religion 247

277S. Movement for the Theater. ALP One course. C-L: see Theater Studies 244S

305T. Choreography. ALP, R Advanced study in dance composition designed to develop the student's personal mode of expression. Prerequisites: Dance 105S, Dance 205T, and consent of instructor. Instructor: Dickinson or Khalsa. One course.

306S. Dance for the Camera. ALP, R, STS The choreographic and bodily experience essential to dance for the camera. Hands on experience in videodance production through the exploration/production of several short individual and group videodance projects. Issues in creative and conceptual thinking, experimentation, pre/post video production, camera techniques, non-linear editing (Final Cut Pro), choreography for the camera. Viewings of seminal as well as experimental videodance works; discussions; readings; internet site visits; computer lab and dance studio/shooting location time; gallery/museum or video installation site visits. Prerequisite: Intermediate or above level of any dance technique, or Dance 105S. Instructor: Woods Valdes. One course. C-L: Documentary Studies 242S, Arts of the Moving Image 343S
308. Performance and Technology: Composition Workshop. ALP, STS Workshop exploration of technologies embedded in performance: robots, media, computer interface. Students create performance projects and discuss theoretical and historical implications of technologies in performance. Open to dancers, actors, musicians, spoken word artists and all those interested in technology and the arts. No previous experience or programming skills required. Instructor: DeFrantz. One course. C-L: Theater Studies 364, Information Science and Information Studies 376

315S. History of Modern Dance, 1880-1950. ALP, CCI Modern dance as an art of individuals who created new dance styles that challenged established systems of culture and pushed the boundaries of good taste. Reflection and commentary on contemporary mores and events, international influences from France, new anthropological studies, German expressionism and the religions of Asia, Native Americans and African Americans. The Americanization of theatrical dance in the bicultural environment of the United States during the 1930s and '40s. Instructor: Dickinson or Shah. One course.

316S. Postmodernism in Dance, 1950-2000. ALP, W An examination of American modern dance since the 1950s, which re instructed what kinds of movements were considered "dance" and what kind of dance was considered art. Postmodern dance as iconoclastic and inclusive, embracing performance art and film, theater and hip hop, fostering the rebirth of modern dance in Europe between 1970-90, and now re-absorbing and recycling the new forms it helped to create. Videos of dancing, guests, workshops, performances. Instructor: Shah. One course.

325. Ballet, Science and Technology: the First 400 Years. ALP, CZ, STS Ballet history from 1500 through 1910 studied through the lens of contemporary science and philosophy, and as facilitated by technological developments. Ballet's beginnings in the Italian City-States of the Renaissance and the court of Louis XIV of France, to the classical ballet form forged by Marius Petipa in Russia. Topics include: Descartes' principles of reason and mathematics made manifest in the aristocratic world view, physical behavior and Ballets du Cour at the court of Louis XIV; gas lighting, hashish, French Romanticism and ballet iconography in theatrical presentation of the Romantic period; the human body as machine and the development of ballet technique. Instructor: Dickinson and Walters. One course.


327. Ballet Masterworks of the Twentieth Century. ALP Works by Fokine, Nijinski, Balanchine, Tudor, Tharp, Forsythe, and other major choreographers in the classical idiom, and how they initiated, influenced, absorbed and responded to modernist and post-modernist ideas and trends. The transformation of the classical aesthetic through the century. Instructor: Walters. One course.

335L. West African Rootholds in Dance. ALP, CCI, CZ Lecture and dance laboratory exploring three West African traditional dance forms and their relationship to religious and social life in Africa and the Diaspora. Continuity and transformation of physical texts as cultural heritage, examined historically and aesthetically. Guest lecturers, videos, research project. Two lab sections, one for students with prior training in African Dance, and one for students with no experience. Instructor: Vinesett. One course. C-L: African and African American Studies 220, Religion 240

355. History and Practice of the Dance and Dance-theatre of India. ALP, CCI, CZ National and regional forms of dance and dance-theatre of India. Ancient treatises on Indian dramaturgy, and the expressive interpretation of the poetics in the traditional forms of performance. Rasa theory of aesthetic rapture and audience reception. Social forms of entertainment in their cultural context. Colonialism and nationalism in relation to classical dance; dance as an integral component of the national and regional identity of the people; dance as an emerging public culture in post-independence India; Indian dance in Diaspora. Guest artists,
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356. Dance and Dance Theater of Asia. ALP, CCI, CZ Asian dance and dance theater performance genres and the cultural aesthetics that inform them. Cultural traditions of China, Korean, Japan, India, Indonesia, Thailand and Cambodia. Religious, ritual, folk and royal court forms of artistic performance. The mythology, legends and symbolic interpretations that underlie the thematic core of these performance traditions; spiritual importance of disciplined training; the intercultural translation and adaptation of Asian performance disciplines to the West. Instructor: Shah. One course. C-L: Theater Studies 233, Religion 241, International Comparative Studies 378

357L. Kundalini Yoga and Sikh Dharma. ALP, CCI, CZ Introduction to Kundalini Yoga and meditation and yogic lifestyle as taught by Yogi Bhajan through practice, lecture, writing and discussion. Overview of the basic philosophy of Sikh Dharma and the development of Sikhism and Kundalini Yoga in the Western Hemisphere. Instructor: Khalsa. One course. C-L: Religion 242

365L. The Art and Cultural History of Flamenco. ALP, CCI, CZ A lecture and dance laboratory course that examines the history of Flamenco, a dance and music form of southern Spain forged by a remarkable intercultural exchange among Arabic, Judaic, and Iberian cultures, inhabitants of Spain, and subsequently enriched by rhythms and influences from the East Indian gypsies and from Latin America. Examination of the three elements of flamenco: cante (song); baile (dance); and toque (guitar). Flamenco's place in the cultural life of Spain and its evolution to contemporary forms. Lab component introduces students to the complex footwork, rhythms, and physical style of flamenco. Taught in English. Instructor: Santana. One course. C-L: Spanish 364

367. Dance and Religion in Asia and Africa. ALP, CCI, CZ Dance and dance-theatre forms in relation to religious beliefs, concepts, and mystic practices within Asian and African cultures. How religion shapes the way the body is perceived, and how spiritual power and energy is symbolically transmitted to the dancer through religious practices. Impact of colonialism and globalization on traditional religious performances. Instructors: Shah and Vinesett. One course. C-L: Religion 244, African and African American Studies 222, International Comparative Studies 214

368. Gender in Dance and Theatre. ALP, CCI, CZ Ways in which gender and sexuality are conceptualized in selected performance cultures. Interprets these historically constituted social formations through an examination of the diverse cultural constructions of gender meanings, representations and ideologies as interpreted and expressed in dance and theatre. Symbolic meanings of gender in relation to forms of social life and theatrical experience. The Devadasi in India, the concept of the male embodied Onnagata, and the notion of the female embodied Otokoyaku in the dance-theatre of Japan. Instructor: Shah. One course. C-L: Women's Studies 212, Theater Studies 236, International Comparative Studies 215, Study of Sexualities

375. Music for Dancers. ALP Exploration of the elements of music, music structures, and their relationship to movement and dance. Practical emphasis on rhythmic fundamentals, rhythm notation, musicality, mindful listening, and how they apply to choreography/composition and dance class. Daily movement, rhythm and/or choreographic exercises, both solo and in groups, along with written assignments. Useful for dance students interested in the dance/music connection. Instructor: Hanks. One course. C-L: Music 342

376. Functional Anatomy for Dancers. ALP The functional anatomy of the musculoskeletal system (muscles, bones, and joints) as specifically applied to dance technique approached through observation, analysis, and movement exploration. Concepts of efficient use and questions of misuse of the body in motion or at rest. Instructor: Staff. One course.

377S. Dance Science: An Evolutionary Approach to Functional Anatomy. ALP, NS, R One course. C-L: see Evolutionary Anthropology 336S

378S. Beyond Technique: The Art of Performance. ALP, R Examination of the complex artistic process of performance necessary to realize the choreographer's intent; development of interpretive abilities beyond
the mastery of technique and style; classic and contemporary approaches to embodying content. Readings in the literature of performance and imaging; written analysis of performance; vigorously coached rehearsal sessions. Prerequisite: intermediate/advanced level of modern, ballet, or African dance technique. Instructor: Dickinson and Walters. One course.

390. Special Topics. ALP Content to be determined each semester. Instructor: Staff. One course.

390S. Special Topics. ALP Content to be determined each semester. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

394. Research Independent Study. R See Dance 393. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

487S. Research Methods in Dance Studies and Choreographic Performance. ALP, CCI, CZ, R, W Research Methods in Dance Studies and Choreographic Performance. Methods used in dance theory, history, ethnography, education, choreography/practice, and therapy. Methods of interviewing and documentation; examination of issues concerning participatory experience and objectivity in ethnographic research. Students develop a research paper that culminates in an extensive individual project completed in this course, or, in the case of dance majors, in Dance 489T. Prerequisites: Junior or senior standing, Dance 101, and one additional course in dance history, theory or world cultures of dance. Consent of instructor required. Instructor: Shah. One course.

488T. Senior Project. ALP, R, W Choreographic project to be researched, created, produced, and performed at the end of term; an accompanying written research paper that presents the themes of the choreographic project, the process of creation in accordance with the guiding metaphor that drives the choreography, and the place of the work within contemporary artistic trends. Open only to seniors earning a major in dance and with permission to seniors earning a minor in Dance. Consent of instructor required. Instructor: Staff. One course.

489T. Senior Project. ALP, R A research paper, project, or program (with appropriate written documentation) under dance faculty supervision. Open only to seniors earning a major in dance and with permission to seniors earning a minor in Dance. Consent of instructor required. Instructor: Staff. One course. 490S. Special Topics in Dance. ALP Special Topics in Dance. Instructor: Staff. One course.

535S. AfroFuturism. ALP One course. C-L: see African and African American Studies 620S; also C-L: Theater Studies 535S, Visual and Media Studies 524S

545S. Selected Topics in Dance Theory. ALP Topics vary. Instructor: Staff. One course.

THE MAJOR

Major Requirements: To major in Dance, a student must take a minimum of twelve courses.

I. Theory courses - 10 course credits
   A. 101. Introduction to Dance
   B. 105S. Dance Composition
   C. One course in dance history, theory, or world cultures of dance selected from the following list. Students cannot select a course that is also listed under their chosen concentration (below).
      335L. West African Rotheolds in Dance
      365L. The Art and Cultural History of Flamenco
      325. Ballet, Science and Technology; The First 400 Years
      327. Ballet Masterworks of the Twentieth Century
      315S. History of Modern Dance, 1890-1950
      316S. Postmodernism in Dance, 1950-2000
      335. History and Practice of Dance of India

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356. Dance and Dance Theater of Asia
367. Dance and Religion in Asia and Africa
368. Gender in Dance and Theatre
326S. The Diaghilev Ballet, 1909-1929

D. 375. Music and Movement

E. Two courses chosen from one of the following three concentrations:

1. *Dance of the Twentieth and Twenty-first Centuries*
   195FCS. The Art of Transformation (Focus Program)
   208. Contemporary Performance
   306S. Dance for the Camera
   327. Ballet Masterworks of the Twentieth Century
   315S. History of: Modern Dance, 1890-1950
   316S. Postmodernism in Dance, 1950-2000
   207S. Performance and Social Change
   326S. The Diaghilev Ballet, 1909-1929

2. *Dance and Human Movement in its Cultural Context*
   335L. West African Rootholds in Dance
   255. T’ai Chi and Chinese Thought
   365L. The Art and Cultural History of Flamenco
   355. History and Practice of Dance of India
   356. Dance and Dance Theater of Asia
   357L. Kundalini Yoga and Sikh Dharma
   367. Dance and Religion in Asia and Africa
   368. Gender in Dance and Theatre

3. *Choreography and Performance*
   306S. Dance for the Camera
   205T. Advanced Dance Composition
   206S. Solo Performance
   308. Performance and Technology: Composition Workshop
   376. Functional Anatomy for Dancers
   207S. Performance and Social Change
   378S. Beyond Technique: The Art of Performance
   305T. Choreography

F. 487S. Research Methods in Dance Studies and Choreographic Performance

G. 488T or 489T. Senior Project

H. Two additional full-credit courses in dance at the 200 level or above.
   In addition, students may petition for credit for courses offered in other programs and departments, with clear documentation of their intellectual value to the overall goals of the major.

**II. Technique and performance half-credit courses—equivalent to two course credits**

A. Two courses (one in each of two different dance forms) in dance technique at the 200 level or above (e.g., Modern Dance III, African Dance II, Ballet III, Jazz II).

B. Two courses in repertory chosen from Dance 412, 422, 432, 442, and 452.

Students majoring in Dance are expected to attain and/or maintain the high intermediate level of modern dance or ballet or African dance technique. Twenty hours total of crew and production work are required of each student. This may be completed at any time during the four-year undergraduate experience.
THE MINOR

Requirements. To earn the minor in dance, students take six course credits: two semesters (equivalent of one course credit) of repertory chosen from Dance 412, 422, 432, 442, and 452 and five full-credit courses including 101 (Introduction to Dance); Dance 135S (Dance Composition); one course in dance history, theory, or world cultures of dance selected from the list below; and two additional courses in dance at the 200 level or above.

Courses in dance history, theory or world cultures of dance:
335L. West African Rootholds in Dance
365L. The Art and Cultural History of Flamenco
325. Ballet, Science and Technology: The First 400 Years
327. Ballet Masterworks of the Twentieth Century
315S. History of Modern Dance, 1890-1950
316S. Post-Modernism in Dance, 1950-2000
335. History and Practice of Dance of India
356. Dance and Dance Theater of Asia
367. Dance and Religion in Asia and Africa
368. Gender in Dance and Theatre
326S. The Diaghilev Ballet, 1909-1929

The student is expected to attain and/or maintain the intermediate level of at least one of the following: modern dance, ballet, or African dance technique. Twenty hours total of crew and production work are required of each student. This may be completed at any time during the four-year undergraduate experience. With the permission of the student’s dance faculty advisor and the director of undergraduate studies, a student may be allowed to substitute other dance courses for the above requirements.

Documentary Studies (DOCST)
Associate Professor of the Practice Rankin and Lecturer Thompson, Co-Directors

A certificate, but not a major, is available in this program.

The goal of this interdisciplinary program is to introduce, broaden, and enhance the technical skills and the theoretical and ethical awareness of students who specialize in one or more of the following modes of community-based fieldwork: photography, oral history, audio, filmmaking, folklore, and ethnographic writing. Courses in this area are offered through the Center for Documentary Studies, African and African-American Studies, Art, Cultural Anthropology, Film/Video/Digital, History, and Public Policy Studies. The Center for Documentary Studies also houses a number of documentary projects that address issues of literacy, collaborative photography, oral history, and farmworker advocacy that students will be exposed to through their affiliation with this program. A major goal of this program is to connect student experience and creativity to community life. Documentary Studies courses teach an arts-and-humanities-based fieldwork research methodology.

Achievement of the program's goal is facilitated by an integrated curriculum of required and elective courses that allow students to specialize in one or more areas of documentary work, and to complete a major documentary project under the guidance of participating faculty members. An active advisory procedure assists students in planning fieldwork projects and other learning opportunities. A certificate is available for students who complete program requirements. Participation in documentary studies courses, with the exception of the capstone course, is available to all undergraduates whether or not they seek the certificate.

The Certificate in Documentary Studies is awarded to students who successfully complete six courses approved as part of the Documentary Studies program. These include a required survey course titled Traditions in Documentary Studies, four related courses from the approved courses (including electives) listed in this undergraduate bulletin, and a required capstone course, Seminar in Documentary Studies. During the seminar, students are expected to bring to completion one major documentary project (using audio, video, photos, and/
or ethnographic writing methods) and to present this project to an audience outside the classroom by the semester's end. The Seminar in Documentary Studies is designed as the culminating experience of the certificate program and is therefore open only to students enrolled in the program. Electives chosen by the student under the guidance of the program co-director should facilitate the completion of the final project.

**89S. First Year Seminar.** Topics vary each semester offered. Instructor: Staff. One course.

**101. Traditions in Documentary Studies.** ALP, CCI Traditions of documentary work seen through an interdisciplinary perspective, with an emphasis on twentieth-century practice. Introduces students to a range of documentary idioms and voices, including the work of photographers, filmmakers, oral historians, folklorists, musicologists, radio documentarians, and writers. Stresses aesthetic, scholarly, and ethical considerations involved in representing other people and cultures. Instructor: Staff. One course. C-L: Visual and Media Studies 103

**105S. The Documentary Experience: A Video Approach.** ALP, R, SS A documentary approach to the study of local communities through video production projects assigned by the course instructor. Working closely with these groups, students explore issues or topics of concern to the community. Students complete an edited video as their final project. Not open to students who have taken this course as Film/Video/Digital 105S. Consent of instructor required. Instructor: Hawkins. One course. C-L: Cultural Anthropology 106S, Arts of the Moving Image 331S, History 125S, Political Science 105S, Public Policy Studies 170S, Visual and Media Studies 106S, Policy Journalism and Media Studies

**107. History of Documentary Film.** ALP, CCI One course. C-L: see Arts of the Moving Image 202; also C-L: Visual and Media Studies 265

**110S. Introduction to Oral History.** CZ, R Introductory oral history fieldwork seminar. Oral history theory and methodology, including debates within the discipline. Components and problems of oral history interviewing as well as different kinds of oral history writing. Instructor: Staff. One course. C-L: History 126S

**111S. Documentary Writing: Creative Nonfiction Through Fieldwork.** ALP, R, W Techniques of independent field research and reporting in the documentary tradition. Emphasis on structure, development, and style of factual narrative-including exercises in redrafting and editing-culminating in a final piece of documentary writing based on students' fieldwork experience. Historical development of documentary writing in relation to the diverse cultures that produced it. Instructors: Staff. One course. C-L: English 111S, Policy Journalism and Media

**115. Introduction to Photography.** ALP Foundation class in black-and-white photographic process as the basis for using photography as a visual language. Class learns to make a printable exposure using black-and-white film, make a "proper proof" and an 8 x 10 enlargement. Assignments include portraits, alternative techniques, landscape, and a final portfolio that embodies a single visual idea. Consent of instructor required. Instructor: Hunter. One course. C-L: Visual Arts 115, Visual and Media Studies 115

**135S. Introduction to Audio Documentary.** ALP, R Recording techniques and audio mixing on digital editing software for the production of audio (radio) documentaries. Various approaches to audio documentary work, from the journalistic to the personal; use of fieldwork to explore cultural differences. Stories told through audio, using National Public Radio-style form, focusing on a particular social concern such as war and peace, death and dying, civil rights. Instructor: Biewen. One course. C-L: Information Science and Information Studies

**153FS. The U.S./Mexico Border.** CCI, EI, SS Focus on the border/frontera: a scar, a divide, a wall between friendly nations, a challenge for policy-makers, a line of demarcation for human rights abuses, a law enforcement nightmare, a pass-through for trade and NAFTA, a net for the poor. Study history, culture, policy, creative writing and art about the only border dividing two nations with such disparity in wealth. Look at the issue as it relates to Mexican farm workers and their work in U.S. fields. Think about solutions together. Learn what this all means for the future of the United States and how its citizens define themselves. Know where you stand along this deadly line in the sand. Students will engage in a service-learning project related to immigrant
laborers and will conduct this work in coordination with a local group such as Student Action with Farmworkers or El Centro Hispano. Instructor: Thompson. One course.

202S. Children and the Experience of Illness. SS An exploration of how children cope with illness, incorporating the tools of documentary photography and writing. Students will work outside class with children who are ill and teach them how to use a camera, working toward an exhibit of photographs at the end of the semester. Permission required. Required participation in service learning. Instructor: Moses. One course. C-L: Public Policy Studies 395S, Visual and Media Studies 211S

203. Visual Culture and Photography. ALP One course. C-L: see Visual and Media Studies 348


212S. Large Format Photography. ALP Advanced black and white photography course exploring unique creative latitude of large negative format. Includes advanced printing/toning techniques and alternative processes such as platinum/palladium. Prerequisite: Documentary Studies 115, Visual Arts 115, or its equivalent. Consent of instructor required. Instructor: Satterwhite. One course. C-L: Visual Arts 213S, Visual and Media Studies 213S

215. Documentary Photography and the Southern Culture Landscape. ALP, CCI Emphasis on the tradition and practice of documentary photography as a way of seeing and interpreting cultural life. The techniques of black-and-white photography - exposure, development, and printing - diverse ways of representing the cultural landscape of the region through photographic imagery. The role such issues as objectivity, clarity, politics, memory, autobiography, and local culture play in the making and dissemination of photographs. Instructor: Rankin. One course. C-L: Visual Arts 216, Visual and Media Studies 215


221S. Visual Research and the American Dream. ALP, R, SS A documentary and sociological approach to the idea of the American Dream, using readings, photography, films, and visual sociological research. Ideology of attainable prosperity by different groups of people; cultural and material symbols of the dream. Field-based course. Consent of instructor required. Instructor: Staff. One course. C-L: Sociology 228S, Visual and Media Studies 217S


227S. Sociology through Photography. ALP, SS Documentary photography used as a tool to see the world through a sociological lens. Photographs and the social construction of reality; generic components of social organization (codes of conduct, mechanisms of social control); power relations and social inequalities; and social identities (how they're formed in relation to structures, experiences, history and culture). Consent of instructor required. Instructor: Hyde. One course. C-L: Sociology 352S, Visual and Media Studies 218S
230S. Small Town USA: Local Collaborations. ALP, CCI, R
Theory and practice of documentary photography in a small-town context. Students working in collaboration with one nearby small town complete a documentary photographic study of one individual or group within that town. Includes analysis of the documentary tradition, particularly as it relates to locally situated work and to selected individual projects; building visual narrative, developing honest relationships with subjects, responsibility to subjects and their communities, and engaging with and portraying a community as an outsider. Photo elicitation and editing techniques. Consent of instructor required. Required participation in service learning. Instructor: Post-Rust. One course. C-L: Visual Arts 232S, Public Policy Studies 389S, Visual and Media Studies 224S, Policy Journalism and Media

233S. American Communities: A Photographic Approach. ALP, CCI, SS

236S. Color Photography: Fieldwork and Digital Color. ALP

239S. The Photographic Essay: Narratives Through Pictures. ALP
Documentary field work course. Students create four distinct photographic essays, studying the ways other photographers have created photographic essays aimed at wide audiences. Students create, choose, sequence, and pace their images while studying classic and contemporary masters of photography. Instructor: Harris. One course. C-L: Visual Arts 241S, Public Policy Studies 399S

242S. Dance for the Camera. ALP, R, STS
One course. C-L: see Dance 306S; also C-L: Arts of the Moving Image 343S

245S. Photography in Context. ALP, R
Uses the Duke Library Photography Archive as a resource to challenge students to think critically about photography. Considers how photography offers insights into areas of academic study such as social change, sexual identity, and regional culture, and how images have shaped collective understanding of these issues. Focuses on analyzing and contextualizing bodies of photographic work, the historical moment in which the pictures were made, personal history and artistic sensibility of the photographer, tools of the medium, along with considering personal responses to images and the ways in which all factors come together. Instructor: Sartor. One course. C-L: Visual Arts 254S, Visual and Media Studies 252S

248S. Environmental Conservation and Documentary Photography. ALP, EI, R
One course. C-L: see Environment 222S; also C-L: Marine Science and Conservation

264. History and Concepts of Cinema. ALP
One course. C-L: see Arts of the Moving Image 201; also C-L: Theater Studies 278, English 181, Literature 110, Visual and Media Studies 289, Policy Journalism and Media Studies

270. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. ALP, CCI, STS
One course. C-L: see Arts of the Moving Image 205; also C-L: Political Science 276, Public Policy Studies 374, Visual and Media Studies 264

271S. Video for Social Change. ALP, CCI, SS
Documentary film course focusing on the production of advocacy videos for social change. Covers methods and traditions of community organizing, introduces
knowledge and skill sets needed to make effective videos for grassroots organizations, and explores how video is integrated into organizing strategies to achieve better results. Includes instructor-supervised fieldwork with community partner organization; student groups will research, write, direct, and produce a class video for a campaign to improve educational and economic opportunities in Durham's low-income communities. Instructor: Orenstein. One course. C-L: Public Policy Studies 375S, Arts of the Moving Image 335S

272S. Documentary and Policy: How Documentary Influences Policy. ALP Examines documentaries as catalysts for change in local, state, and federal laws and regulations, with special attention to relationships between film and organizations with political influence. Looks at how documentaries have altered public sentiment and political outcomes. Uses case studies of documentary films (essay-style, journalistic, information-driven films; narrative, story-driven films; propaganda; art films; and hybrids of all of the above). Explores the question of how a film achieves influence: for example, with a high-profile theatrical and/or television release, by utilization as an educational tool, or by "going viral" to become part of a public conversation. Instructor: Price. One course. C-L: Arts of the Moving Image 336S, Public Policy Studies 228S

273S. Planning the Documentary Film: From Concept to Treatment. ALP, R Historical documentary film preparation through narrative, character-driven stories. Using the raw material of real life, students organize the conceptual process for historical documentary films, framing a logical sequence of events structured for dramatic effect. Focus on the pre-production activities and principles that lead to a treatment that is the foundation for an efficient shooting schedule. Instructor: James. One course. C-L: Arts of the Moving Image 332S, Visual and Media Studies 220S, Information Science and Information Studies

276S. Adapting Literature -- Producing Film. ALP One course. C-L: see Arts of the Moving Image 304S; also C-L: Visual Arts 228S, Information Science and Information Studies

277S. Sound for Film and Video. ALP, STS One course. C-L: Arts of the Moving Image 350S, Music 121S, Information Science and Information Studies 243S

278S. Producing Docu-Fiction. ALP One course. C-L: see Arts of the Moving Image 334S

279S. Editing the TV Documentary: From Creativity to Collaboration to Negotiation. ALP One course. C-L: see Arts of the Moving Image 333S; also C-L: Visual and Media Studies 274S, Policy Journalism and Media Studies

281S. Cinematography. ALP One course. C-L: see Arts of the Moving Image 355S; also C-L: Visual and Media Studies 260S, Visual Arts 248S

285. Visiting Filmmaker Master Course: Special Topics. ALP One course. C-L: see Arts of the Moving Image 385

285S. Visiting Filmmaker Master Courses: Special Topics. ALP One course. C-L: see Arts of the Moving Image 385S; also C-L: Visual Arts 325S

288S. Editing for Film and Video. ALP One course. C-L: see Arts of the Moving Image 357S; also C-L: Information Science and Information Studies 248S

290. Special Topics in Documentary Studies. Selected topics in methodology, theory, or area in lecture format. Instructor: Staff. One course.

290S. Special Topics in Documentary Studies. Selected topics in methodology, theory, or area in seminar format. Instructor: Staff. One course. C-L: Policy Journalism and Media


310S. Intermediate Audio Documentary. ALP, R Introductory to intermediate audio techniques. Includes instructor-supervised fieldwork with an audio recorder in a variety of settings using creative approaches; students produce four short pieces (roughly three minutes long) in varying styles (journalistic, personal, artistic)
for posting on iTunes and on public multimedia websites. Consent of instructor required. Instructor: Biewen.
One course. C-L: Policy Journalism and Media Studies 310S, Information Science and Information Studies,
Policy Journalism and Media

320S. Freedom Stories: Documenting Southern Lives and Writing. ALP, CCI, CZ

323S. Behind the Veil: Methods. CCI, CZ, R

326. The South in Black and White. ALP, CCI, CZ
Focus on present-day and historical documentary traditions in American South, with an emphasis on call and response between black and white cultures. The arts and humanities as imbedded in particular histories and cultures found in the South, and as performed in music and theater; and portrayed in documentary films, civil rights photography, Southern literature, and historical and autobiographical writing. Includes historical texts, oral histories and testimonies of living persons, along with documentary films, photographs, and writings from people in Durham and elsewhere in the region. Instructor: Tyson. One course. C-L: African and African American Studies 230, History 358

329S. Collaborative Art: Practice and Theory of Working Within a Community. ALP
Approaches of various contemporary artists to creating collaborative work resulting in artworks that express a variety of social and aesthetic positions and include progressive educational philosophies and radical democratic theory. Field work with a community institution or small group in Durham to produce collaborative work in a medium of students' own choosing. Instructor consent required. Instructor: Staff. One course. C-L: Visual Arts 230S, Visual and Media Studies 219S

332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change. CCI, SS
Focus upon those who bring food to our tables, particularly those who labor in the fields of North Carolina and the Southeast. Farm work from the plantation system and slavery to sharecropping, and to the migrant and seasonal farmworker population today. Documentary work and its contributions to farmworker advocacy. Instructor: Thompson. One course. C-L: Cultural Anthropology 236S, Latino/a Studies in the Global South

335S. Who Cares and Why: Social Activism and its Motivations. CCI, R, SS, W
Documentary fieldwork-based research on the lives of people who have committed themselves to changing society. Life history interviews exploring personal and societal transformations with special attention to the antecedents to personal change leading to examined lives of commitment. Attention to various areas of social change, including human rights, civil rights, international activism, labor rights, and environmental activism. Focus on societal and personal questions regarding motivations for, and the effectiveness of, good works in several cultural settings. Instructor: Thompson. One course. C-L: Cultural Anthropology 239S

338S. Documenting Religion. CCI, CZ
Exploration of how religious communities interpret and live out such themes as sacred spaces, hope, power, pilgrimage, identity, commitment, evil, gifts, bodies, death, and regeneration. Student participation in, and documentation of, a religious community of the student's choosing. Fieldwork off campus required. Instructor: Thompson. One course. C-L: Religion 251S, Cultural Anthropology 233S

341S. Politics of Food: Land, Labor, Health, and Economics. ALP, CCI, EI, R
Explores the food system through fieldwork, study, and guest lectures that include farmers, nutritionists, sustainable agriculture advocates, rural organizers, and farmworker activists. Examines how food is produced, seeks to identify and understand its workers and working conditions in fields and factories, and, using documentary research
conducted in the field and other means, unpacks the major current issues in the food justice arena globally and locally. Fieldwork required, but no advanced technological experience necessary. At least one group field trip, perhaps to a local farm or farmers market, required. Instructor: Thompson. One course. C-L: Cultural Anthropology 238S, Public Policy Studies 380

344S. Our Culinary Cultures. ALP, CCI, W Documentary approach to the world of food using fieldwork research. Topics of food and its preparation examined through deep stories of how food is raised, prepared, and presented in order to explore how the myriad ways in which what we eat reveal key biographical, economic, religious, and other truths about our cultures. Introduces students to the history of food writing and the concept of food in general as a nonverbal tool of communication. Photography, audio, and documentary writing employed. Instructor: Alexander. One course. C-L: Cultural Anthropology 258S

347S. Civil/Human Rights Activism: In the Spirit of Pauli Murray. ALP, CCI, CZ, R Documentary fieldwork course exploring the legacy of civil and human rights activism in Durham through the life and work of noted historian, lawyer, poet, activist and priest Pauli Murray. Students will utilize scholarship, primary source archival materials and contemporary documentary projects to set a context for their fieldwork in Durham. Working with the instructor and local social change leadership engaged in work related to the "Face-Up Project," students will deepen fieldwork skills - photography, writing, audio or filmmaking - and develop documentary projects in collaboration with culturally diverse community groups. Requires fieldtrips to communities in Durham. Instructor: Lau. One course. C-L: Cultural Anthropology 246S, African and African American Studies 236S

350S. Documenting Black Experiences. ALP, CCI Interpretations of the black diaspora in documentary film from slavery to the present. Interdisciplinary study of black religions, cultures, histories, aesthetics, politics, and their representations, both globally and in the U.S. Students will view and study a variety of films and approaches to film and study film's evolution through numerous lenses from early ethnographic film to recent works by indigenous filmmakers, and understand the politics of representation, from D.W. Griffith to Spike Lee; read relevant works in the genres represented; and hear from guest critics, scholars of African and African American history and culture, and filmmakers. Instructor: James. One course. C-L: African and African American Studies 225S, Arts of the Moving Image 214S, Cultural Anthropology 262S, Public Policy Studies 387S


356S. Magazine Journalism. SS, W One course. C-L: see Public Policy Studies 366S; also C-L: Visual and Media Studies 306S, Policy Journalism and Media Studies Core

359S. Islam and the Media. CCI, SS One course. C-L: see Public Policy Studies 388S; also C-L: Islamic Studies, Policy Journalism and Media Studies

390S. Special Topics in Sound Technology. ALP Topics focusing on technical basis and aesthetic motivation of sound recording and sound exploitation. Technical demonstration and student exercises explore the mechanics and dramatic and psychological implications of formats, microphone placement, mixing, acoustic signature, digital recording, double system, and sound editing, leading to an individually produced sound design for live action or animation film/video. Prerequisite: Theater Studies 272, English 181, Literature 110. Instructor: Staff. One course. C-L: Information Science and Information Studies

415S. Advanced Documentary Photography. ALP, SS An advanced course for students who have taken Public Policy Studies 397S or have had substantial experience in documentary fieldwork. Students complete an individual photographic project and study important works within the documentary tradition. Prerequisite: Visual Arts 217S, Public Policy Studies 397S, or consent of instructor. Instructor: Harris, Rankin, or staff. One course. C-L: Visual Arts 415S, Public Policy Studies 398S, Visual and Media Studies 415S, Arts of the Moving Image, Policy Journalism and Media Studies
450S. Documentary Engagement Through Field-Based Projects. ALP Documentary photography as a tool for social engagement in preparation for intensive field-based projects. Students study documentary photographers while planning and refining their own documentary projects through which they will address societal issues locally, nationally, or abroad. Students learn and refine valuable technical skills such as Photoshop, inkjet printing, and web-based methods in order to complete a preliminary documentary project by the end of the semester. Consent of instructor required. Required participation in service learning. Instructor: Harris. One course. C-L: Public Policy Studies 396S

460S. Multimedia Documentary: Editing, Production, and Publication. ALP Edit and shape fieldwork material into a Web-based multimedia presentation. Learn current technologies and techniques for multimedia publications. Examine unique storytelling strategies for on-line presentations and compare this medium to traditional venues for documentary work such as exhibitions, books, and broadcast. Instructor: Staff. One course. C-L: Visual Arts 460S, Visual and Media Studies 460S


480S. Capstone Seminar in Documentary Studies. ALP, R Immersion in fieldwork-based inquiry and in-depth projects that serve as Certificate in Documentary Studies capstone experiences for students. Methods of documentary fieldwork, including participant observation, and modes of arts and humanities interpretation through a variety of mediums (including papers, film, photography exhibits, radio pieces, and performances). Consent of instructor and director of undergraduate studies required. Prerequisite: Documentary Studies 101 and four Documentary Studies electives. Instructor: Staff. One course.

511. Documentary and East Asian Cultures. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 511; also C-L: Arts of the Moving Image 641

611. Documentary Writing Workshop. ALP, R, W Workshop in the art and practice of writing in the long-form traditions of narrative nonfiction, literary journalism, and documentary writing. Write, share, and refine one major work of narrative nonfiction throughout the semester. Discuss research methods and resources, especially those useful for creative writers. Intended for advanced writers who would like to work on ambitious nonfiction work in an intensely creative and supportive workshop. Instructor: Murrell. One course.

615S. Environmental Issues & the Documentary Arts. ALP Survey how filmmakers, authors, photographers, and other artists have brought environmental issues to the public's attention in the last century, and in some cases instigated profound societal and political change. Examine the nebulous distinctions between persuasion and propaganda, agenda and allegory, point of view and content. Evolve as a viewer of the environment and a maker of documentary art. Initiate your own projects to address and/or depict environmental issues in one form of a broad range of media. Instructor: Espelie. One course. C-L: Environment 615S, Arts of the Moving Image 643S

PROGRAM COURSES
African and African American Studies
206. Africans in America to the Civil War
207. African Americans Since the Civil War

Art History
303. History of Photography, 1839 to the Present

Arts of the Moving Image
330S. Documentary Film/Video Theory and Practice

Asian & Middle Eastern Studies
355. Contemporary Culture in South Asia

Cultural Anthropology
130. Anthropology and Film
131. World Music: Aesthetic and Anthropological Approaches
137. Music, Social Life, and Scenes
150. Fantasy, Mass Media, and Popular Culture
240S. The Anthropology of Hinduism: From Encounter to Engagement
243. Culture and Politics in Latin America
Ecology

For courses in ecology, see Biology (on page 179) and the Environmental Sciences and Policy Program (on page 300).

Earth and Ocean Sciences (EOS)

Professor Pratson, Chair; Professor Glass, Director of Undergraduate Studies; Professors Baker, Boudreau, Chameides, Corliss, Golden, Haff, Jackson, Kay, Klein, Lozier, Marani, McGlynn, Murray, Pratson and Vengosh; Assistant Professors Cassar, Li; Professors Emeriti Barber, Heron, Livingstone, Perkins, and Pilkey; Lecturer Glass

A major or a minor is available in this division.

The Division of Earth and Ocean Sciences offers introductory and advanced courses in climatology, coastal geology, environmental geology, hydrology, geochemistry, geomorphology, oceanography, paleontology, petrology, sedimentology, and marine geology. A Bachelor of Science degree is offered for those students wishing to pursue further studies in the earth and ocean sciences, and for those who intend to work professionally in earth sciences. A Bachelor of Arts degree is offered for those students who wish to understand more fully local and global environmental issues. Additional information about the division can be found on the divisional Web site (http://www.nicholas.duke.edu/eos).

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

101. The Dynamic Earth. NS, STS Introduction to the dynamic processes that shape the Earth and the environment and their impact upon society. Volcanoes, earthquakes, seafloor spreading, floods, landslides, groundwater, seashores and geohazards. Emphasis on examining the lines of inductive and deductive reasoning, quantitative methods, modes of inquiry, and technological developments that lead to understanding the Earth's dynamic systems. Instructors: Baker, Klein, Murray, Glass. One course.
102. The Dynamic Oceans. NS, STS The oceans and their impact on the Earth's surface, climate, and society. Topics include seafloor evolution, marine hazards, ocean currents and climate, waves and beach erosion, tides, hurricanes/cyclones, marine life and ecosystems, and marine resources. Emphasis on the historical, society and economic roots of oceanography, the formulation and testing of hypotheses, quantitative assessment of data, and technological developments that lead to understanding of current and future societal issues involving the oceans. Includes a field trip at the Duke University Marine Laboratory. Required fee for trip. Instructors: Corliss, Glass. One course. C-L: Biology 157, Marine Science and Conservation


202. Atmosphere and Ocean Dynamics. NS, R Introduction to the dynamics of ocean and atmospheric circulations, with particular emphasis on the global climate cycle. Prerequisites: Mathematics 21 and 122, Physics 141L or consent of instructor. Instructor: Lozier. One course. C-L: Marine Science and Conservation

203S. The Surface of the Earth. NS Fundamental earth surface processes involving weathering, soils, hillslopes, rivers, wind, glaciers, and tectonic activity. Humans as agents of landscape change. The future of landscape. Prerequisites: Earth and Ocean Sciences 101 or 102. Instructor Consent Required. Instructor: Haff or Murray. One course. C-L: Visual and Media Studies 253S


226S. Field Methods in Earth and Environmental Sciences. NS, R, W Introduction to basic field methods used in the earth and environmental sciences. Field investigations focus on topics such as groundwater and surface water movements, soil chemistry and identification, topographic and geologic mapping, the atmosphere/soil interface, and plant identification and distributions. Design of a field investigation, collection of data to address a specific goal, and interpretation and reporting of the results. Emphasis on learning to report field results in the format of scientific publications. Visits to five local field sites. Open only to juniors and seniors. Instructor: Klein. One course. C-L: Environment 226S

272A. Analysis of Ocean Ecosystems. NS One course. C-L: see Biology 272A; also C-L: Environment 272A, Marine Sciences, Marine Science and Conservation

273LA. Biological Oceanography. NS, R Variable credit. C-L: see Biology 369LA; also C-L: Environment 369LA, Marine Sciences, Marine Science and Conservation


288A. Biogeography in an Australian Context. NS, STS One course. C-L: see Biology 288A; also C-L: Environment 288A


315. Waves, Beaches, and Coastline Dynamics. NS, STS Oceanographic and geologic processes responsible for the evolution of nearshore features; fluid motions of many time scales in the nearshore environment, including waves and currents. Conceptual basis for models of how fluid motions interact with the shape of the beach and bed in the surf zone, giving rise to features such as beach cusps, bars, channels, and barrier islands. Various attempted engineering and coastal management solutions to the global retreat of shorelines. One course. C-L: Marine Science and Conservation

316A. Beach and Island Geological Processes. NS Field seminar on the evolution of beaches and barrier islands with emphasis on the interactions between nearshore processes and human development. Prerequisite: Earth and Ocean Sciences 315/515 or consent of instructor. Also taught as Earth and Ocean Sciences 716A. Instructor: Murray. Half course. C-L: Marine Sciences
323. Hydrogeology. EI, NS, STS An overview of the hydrologic cycle and its impact on global climate and local environmental problems. Examines ethical dilemmas encountered in communicating environmental analysis to the public. Prerequisite: Mathematics 122 and Chemistry 101DL or equivalent, or consent of the instructor. Instructor: Vengosh. One course. C-L: Marine Science and Conservation

325. The Future. NS, STS Introduction to the future as a continuation of the geological, biological, and technological evolution of the Earth. Topics include developments and trends in computation, the internet, nanotechnology, space exploration, artificial intelligence, robots and biotechnology and their effects in society. Prerequisite: Earth and Ocean Sciences 101 or 102. Instructor: Haff. One course.


341. Dinosaurs with Feathers and Whales with Legs: Major Evolutionary Transitions in the Fossil Record. NS, STS Focus on the fossil record of the differentiation of the major vertebrate groups. Study and critical evaluation of the paleontological and neontological evidence for four major macroevolutionary transitions in the history of life: fish to tetrapods, the reptile/mammal differentiation, the evolution of birds from dinosaurs, and the origin of whales. Stresses the importance of the fossil record in the reconstruction of transitions but also covers genetic, physiological, and developmental evidence gathered from living representatives. Required fieldtrip to the Museum of Natural History in Raleigh. Prerequisite: Prior course work in Earth and Ocean Sciences or Biology or consent of instructor. Instructor: Glass. One course. C-L: Biology 345

351S. Global Environmental Change. NS Topics in the seminar will include climate change, earth surface alteration, prediction, water and carbon cycling, sea-level rise and coastal erosion, biodiversity, fossil fuels and energy resources, water resources, soil fertility, and human impact on coastal zone ecosystems. Instructor consent required. Instructor: Baker. One course.


358. Introduction to Satellite Remote Sensing. NS Introduction to the field of remote sensing and approaches used in image processing and analysis of remote sensing data. Students will acquire an operational knowledge of various remote-sensing tools and data types, with emphasis on their application in environmental and earth science problems. Content will include theory, in-class laboratory exercises, and projects with environmental applications. Prerequisite: introductory or AP physics preferred. Instructor: Silvestri. One course. C-L: Environment 358

359. Fundamentals of GIS and Geospatial Analysis. NS, QS One course. C-L: see Environment 359

364S. Changing Oceans. NS, STS Our oceans are under severe stress. This seminar will explore human disturbances of marine environments, including ocean warming, sea level rise, melting of ice caps and sea ice, ocean acidification, coastal eutrophication, changes in primary production and food web dynamics, invasive species, overfishing, increased subsurface hypoxia, changes in circulation, stratification, and physical, chemical (e.g. oil spills) and noise pollution. Instructor: Cassar. One course. C-L: Environment 362S, Marine Science and Conservation

365. Introduction to Weather and Climate. NS Introduction to weather and climate. Topics include atmospheric structure, composition, circulation and energy properties; severe weather events such as cyclones, hurricanes, and tornadoes; ozone depletion; natural climate variability; climate change and global warming. Instructor: Li. One course.

370A. Introduction to Physical Oceanography. NS, QS, STS One course. C-L: see Environment 370A; also C-L: Marine Sciences, Marine Science and Conservation
374LA. Marine Ecology. NS, R, W One course. C-L: see Biology 273LA; also C-L: Environment 273LA, Marine Sciences, Marine Science and Conservation

377LA. Marine Invertebrate Zoology. NS, R Variable credit. C-L: see Biology 377LA; also C-L: Environment 377LA, Marine Sciences, Marine Science and Conservation

390. Special Topics in Earth and Ocean Sciences. Content to be determined each semester. Consent of instructor required. Instructor: Staff. One course.

390S. Special Topics in Earth and Ocean Sciences. Content to be determined each semester. Consent of instructor required. Instructor: Staff. One course.

391. Independent Study. Directed reading or individual projects. Term paper required. Open only to qualified juniors and seniors by consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course. C-L: Marine Sciences


392. Independent Study. See Earth and Ocean Sciences 391. Term paper required. Open only to qualified juniors and seniors by consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course. C-L: Marine Sciences

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors and seniors by consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course. C-L: Marine Sciences

393A. Research Independent Study. R Marine Lab version of EOS 393. Offered at Beaufort. Instructor: Staff. One course. C-L: Marine Sciences

394. Research Independent Study. R See Earth and Ocean Sciences 393. Open only to qualified juniors and seniors by consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course. C-L: Marine Sciences

394A. Research Independent Study. Marine lab version of EOS 394. Offered at Beaufort. Instructor: Staff. One course. C-L: Marine Sciences

401. Field Exploration of the Geology of North Carolina. NS, STS Introduction to the geological history of North Carolina with an emphasis on active learning and field-based inquiry. Class time serves as preparation and background for two one-day and one overnight weekend field trips. An introductory geology background is useful but not required. Instructor: Glass. One course.

402S. Volcanology: Geology of Hawaii. NS, R Geology of volcanic processes and the benefits and hazards they present to society. Lectures, discussion and student presentations of independent research reports. Required field trip to Hawaii during spring break. Prerequisite: Earth and Ocean Sciences 101 recommended. Consent of instructor required. Instructor: Boudreau. One course.


404S. Geology of Tropical Marine Environments. NS, R Spatial and temporal analysis of the geology of tropical shallow marine environments. Includes class discussions, required spring-break field trip to South Florida, Belize, Turks and Caicos Islands, or similar setting, in-class and field trip presentations, post-trip research paper. Examination of tropical shallow marine sedimentary environments including reefs, mudbanks, and mangrove forests and islands, and their ancient counterparts in rock outcrops and sediment cores. Includes a field trip with a required fee for the trip. Prerequisite: Earth and Ocean Sciences 101 or 102, or consent of instructor. Instructor: Dwyer. One course. C-L: Marine Science and Conservation
405S. The American Southwest. NS Geomorphic and geologic features of arid terrain, including volcanism, tectonics, soils and weathering, paleo-lakes, wind-blown sand and dust, landslides, and alluvial fans. Reconstruction of paleo-landscape processes based on observations of present landforms. Interpretation of landform development and process from geomorphic field evidence. Focus on the Mojave Desert region of California and Nevada. Includes week-long field trip with fees required for the trip. Prerequisite: Earth and Ocean Sciences 101, and consent of instructor. Instructor: Haff or Murray. One course.

410S. Senior Capstone Experience. NS, R, STS Senior capstone field trip course. Field location varies. Topics in geology, hydrology, biology, climate, and other environmental subjects as appropriate for field area, especially human impact on the earth and the role of earth scientists as observers and teachers of earth-system change. Course content partially determined by students. Prerequisites: Open only to senior Earth and Ocean Sciences majors. Department consent required. Instructor: Staff. One course.

507. The Amazon: Geology, Climate, Ecology, and Future Change. NS This course will study the natural history of the Amazon including its biodiversity, geological evolution, and modern climate and hydrology. The present development of the Amazon and best strategies for its future conservation will be discussed. Instructor: Baker. One course.


509S. Paleoclimate. NS, R Nature and mechanisms of climate variability throughout Earth history. Topics include general theory of climate, paleoclimate modeling and comparisons with observations, methodologies of reconstructing past climate variations, the observational record of paleoclimate extending from the Precambrian through the Ice Ages and Holocene to present, and the impact paleoclimate on biotic evolution/paleogeography and human cultural history. Consent of instructor required. Instructor: Baker. One course.

510S. Paleoenvironmental Analysis. NS Methods of paleoenvironmental and paleoclimatic analysis. Includes radiometric and other methods of dating, stable isotopes, trace elements, paleobiotic and other methods of reconstructing climate, hydrology and environment of the past. Also includes approaches to modeling paleoenvironmental data. Instructor: Baker. One course.

511. The Climate System. NS, R Components of the climate system: observed climate change, concept of energy balance, basic circulation of the atmosphere and ocean, introduction to climate models, sample applications of climate models, interactions between the atmosphere/ocean/ and biosphere, land surface, cryosphere (snow and ice), and chemistry of the atmosphere. Prerequisite: consent of instructor. Instructor: Staff. One course.

512. Climate Change. NS, R, STS Course aims to provide knowledge and understanding of physics of climate system and Earth system modeling for scientists, engineers and policy students with physics and mathematics background. Fundamental principles controlling physical and dynamic structure of climate system; discussion of relative roles of natural climate variability and external forces and anthropogenic influences. Explore numerical methods, develop computing skills, and deal with data handling as a means to an end of quantifying climate system behavior. Prerequisite: Earth and Ocean Sciences 511. Instructor: Li. One course.

513S. Greening the Seven Seas: Marine Environmental Sustainability. NS, STS Introduction to marine environmental challenges, and how to address these issues to achieve sustainability. Topics include green boats, green seaports, plastics in the oceans, pollution, wind, wave and tidal power, oil and gas production, sustainable coasts, sustainable fisheries. Lectures, discussion of readings, invited speakers. Field trip to coast to explore sea port and ships. Prerequisite: one introductory oceanography course or consent of instructor. Instructor: Corliss. One course. C-L: Environment 513S, Marine Science and Conservation
514. **Energy and Ecology. NS, STS** Develop understanding of interactions between energy and ecology. Examine ecological effects of energy use, production and waste products. Examine ecological consequences of energy use broadly, and discuss potential consequences of science and policy decisions. Prerequisite: introductory college course in ecology or equivalent. Instructor: Jackson. One course.

520. **Introduction to Fluid Dynamics. NS** Conservation equations for mass, momentum and heat, with an emphasis on large temporal and spatial scales; application to the earth, ocean, and environmental sciences. Some background in differential equations highly recommended. Instructor: Lozier. One course.

525. **Fundamentals of Water Biogeochemistry and Pollution. NS** Course is designed to present students with a comprehensive introduction to the sources and impacts of pollution in marine and freshwater environments. Fundamental concepts and principles of aquatic biogeochemistry will first be introduced: marine and freshwater chemistry, primary production and food webs. Topics to be covered include biological (e.g. pathogens, invasive species), physical (e.g. thermal, plastics), and chemical (e.g. nutrient loading, oil, pesticides, metals) pollutants. Instructor: Cassar. One course.

526S. **Water Forum Speaker Series. NS, STS** Seminar including visiting scholars covering a broad array of issues on water including water quality, hydrogeology, biogeochemistry, water management, water treatment, ecology, water economy, and water policy and law at both the national and international levels. Instructor: Vengosh. One course.

527. **International Water Resources. NS, SS, STS** Overview of the hydrology, hydrogeology, water quality, and management of major international water resources. Focus on cross-boundary international rivers and aquifers, up-stream versus down-stream water users, the politics of water sharing and disputes, the role of science in water management, and prospects and implications for future utilization of contaminated rivers and stressed aquifers. Examples from international rivers such as the Tigris, Euphrates, Nile, Jordan, Colorado, Indus, Ganges, and Mekong and international aquifer systems such as the Mountain aquifer, Gaza Strip, Disi, and Nubian basins in northern Africa. Instructor: Vengosh. One course.

528S. **Biological-Physical Couplings in Coastal Environments; Responses to Changing Forcing. NS, R** Focus on select examples of biological-physical couplings that shape coastal environments (i.e. coastal 'ecomorphodynamics') and help determine how those environments respond to changing climate and land use. Environments include: barrier islands, tidal wetlands. Grading based on in-class presentations, and a final project (in the form of a research proposal). Instructor consent required. Instructor: Murray. One course.


542S. **New Perspectives and Methods in Surface Process Studies. NS** Nonlinear dynamics and related approaches to understanding, modeling, and analyzing physical systems, with emphasis on applications in geomorphology. Consent of instructor required. Instructor: Murray. One course.

543S. **Landscape Dynamics. NS** How landscape changes with time. The dynamics and mechanisms of earth surface processes underlying landscape change. Hillslope, fluvial, marine, glacial, volcanic, tectonic and aeolian processes. Reading and discussion of primary literature; several field trips to Duke Forest. Prerequisite: Earth and Ocean Sciences 101 or consent of instructor. Instructor: Haff and Pratson. One course.

544. **Geoengineering. EI, NS, SS, STS** Discussion of proposals for large-scale intentional modification and/or control of climate. Physical mechanisms, intended benefits, risks, costs, scenarios for deployment, historical analogs, possible unintended physical and social consequences, ethical dilemmas, oath for earth and environmental scientists. Prerequisite: one course in Earth and Ocean Sciences or consent of instructor. Instructor: Haff. One course.

545S. **Nanoenvironment. NS, SS, STS** Introduction to the emerging world of the 21st century, "the neoenvironment," where life, environment, and social interaction are increasingly engineered by novel
technologies. Topics include transition of science from observation and understanding to manipulation and control, acceleration of technology, emergence of the internet and other global networks, novel life forms, redesigning of humans, artificial intelligence, virtual worlds, proliferation of computation and surveillance in the environment, numericalization of nature and society. Prerequisite: one course in Earth and Ocean Sciences or consent of instructor. Instructor: Haff. One course.

551S. Global Environmental Change. NS, R Topics in the seminar will include climate change, earth surface alteration, prediction, water and carbon cycling, sea-level rise and coastal erosion, biodiversity, fossil fuels and energy resources, water resources, soil fertility, human impact on coastal zone ecosystems. Prerequisite: consent of instructor. Instructor: Baker. One course.

567. Analyzing Time and Space Series. NS, QS Ways to extract information from data; methods for probing time or spatial series including spectral and wavelet analyses, correlation techniques, and nonlinear-dynamics approaches for determining how deterministic and linear the processes producing the data are, and for reconstructing and quantitatively comparing state-space plots. Instructor: Murray. One course.

569. Thermodynamics of Geological Systems. NS Introductory thermodynamics applied to geologic problems through understanding of phase equilibrium. Prerequisites: Earth and Ocean Sciences 201; and Mathematics 122 or consent of instructor. Instructor: Boudreau. One course.

571. Stable and Radioactive Isotopes in Environmental Sciences. NS, QS Theory and applications of stable and radioactive isotope distributions in nature (including oceanographic, geologic, hydrologic, and biological processes). Prerequisites: Chemistry 210DL and Mathematics 122. Instructor: Baker or Vengosh. One course.

573S. Analytic Techniques. NS An introduction to advanced analytic procedures used in the earth sciences: such as electron microbeam techniques (scanning electron microscopy, electron microprobe analysis) and plasma emission/absorption spectroscopy. Consent of instructor required. Instructor: Boudreau. One course.

575S. Mineral Resources. NS Introduction to the mineralogy, geological setting, and genesis of metallic and non-metallic deposits (gold, copper, iron, aluminum, gypsum, phosphates, diamonds, e.g.). Includes methods of mineral exploration and exploitation, and the environmental consequences of utilizing mineral resources. An introductory geology course background useful but not required. Instructor: Boudreau. One course.


590. Special Topics in Earth and Ocean Sciences. Content to be determined each semester. Consent of instructor required. Instructor: Staff.

590S. Special Topics in Earth and Ocean Sciences. Content to be determined each semester. Consent of instructor required. Instructor: Staff.

THE MAJOR

The Division of Earth and Ocean Sciences offers one A.B. degree and one B.S. degree.

For the A.B. Degree

The A.B. degree in earth and ocean sciences is designed as a flexible major for those students interested in how the earth, atmosphere and oceans work. The major is intended to provide a general knowledge of scientific issues that shape and control the environment in which we live.

Required courses include Earth and Ocean Sciences 101, or 102, plus any six earth and ocean sciences courses of which five must be 200 level or higher, plus three additional 200-level or higher courses in either earth and ocean sciences or related fields (physics, mathematics, biology, evolutionary anthropology, environment), as approved by the director of undergraduate studies. Concentration in Natural History. Students may elect to complete the requirements in the area of Natural History; intended for students interested in an integrative study of topics selected from ecology, botany, zoology, anthropology, history, hydrology,
geology, oceanography, and the environment. For information on this area of concentration see the director of undergraduate studies.

**For the B.S. Degree**

The B.S. degree provides a background for subsequent graduate work for those who wish to follow an academic or professional career track in the earth and ocean sciences.

**Prerequisites:** Earth and Ocean Sciences 101 and 102; Chemistry 101DL and either Chemistry 210DL or 201DL, or equivalents; Mathematics 111L and 112L; Physics 141L; Biology 202L.

**Major requirements.** Earth and Ocean Sciences 201L, 202, 203S, and 204L, plus five additional earth and ocean sciences courses at the 200 level, including one field-oriented class. Up to two courses from a related field (biology, chemistry, physics, environment, or mathematics) may be substituted with the approval of the director of undergraduate studies.

**Marine Science**

An exciting area in earth and ocean sciences is the study of the marine realm. Majors in earth and ocean sciences may fulfill elective requirements with courses in marine science by studying at the Duke Marine Laboratory on the coast in Beaufort, NC, which often includes fieldwork excursions to other areas of the world (e.g., Hawaii, Trinidad, Singapore). Approved courses include: Marine Ecology; Biological Oceanography; Analysis of Ocean Ecosystems; Marine Invertebrate Zoology (see full course listings at: www.nicholas.duke.edu/marinelab/programs). Students typically also perform a research Independent Study project on a topic of interest supervised by a faculty member of the Marine Laboratory.

**Graduation with Distinction**

The Division of Earth and Ocean Sciences through Trinity College offers Graduation with Distinction through successful completion of a student research project. A candidate for Graduation with Distinction in the earth and ocean sciences must have a divisional grade point average of 3.2 at the beginning of the project to qualify for nomination. The student will apply for consideration for Graduation with Distinction by the beginning of his or her senior academic year by submitting an application to the director of undergraduate studies describing the project. The student must solicit a faculty advisor who will review the student's record and decide to admit or reject the application and oversee the project. The student will normally do the work as part of independent study courses (Earth and Ocean Sciences 393, 394) completed during one academic year. The project will consist of an original piece of scientific research which will be summarized by a written report in the style of a scientific publication. The student will also make an oral presentation to students and faculty of the division before the end of classes of the student's final semester. The decision on granting Graduation with Distinction will be made by a vote of the student's project committee, with a majority in favor needed for Graduation with Distinction.

**THE MINOR**

The Division of Earth and Ocean Sciences offers an option for a minor in earth and ocean sciences.

**Minor Requirements.** Earth and Ocean Sciences 101 or 102, plus any four additional earth and ocean sciences courses, of which three must be 200-level or higher.

**TEACHER CERTIFICATION**

A major in the Division of Earth and Ocean Sciences who is interested in teaching in secondary schools is encouraged to earn a comprehensive science teaching certificate in addition to the bachelor's degree. The teaching certificate, which is earned by fulfilling requirements prescribed by the state of North Carolina, is generally accepted in most of the fifty states by reciprocal agreement. In addition to completion of any of the earth and ocean sciences major tracks as described above (the A.B. option is particularly suited for those interested in a teaching certificate), the requirements for the comprehensive science teaching certificate include coursework in biology, chemistry, physics, an appropriate course in psychology, and several courses in education. The last semester of the senior year is devoted to the student-teaching block, including two special, accelerated courses and ten weeks of full-time teaching and observation in the schools, working with a certified teacher and with Duke faculty. Anyone considering secondary school teaching should contact the Program in Education as soon as possible.
Economics (ECON)

Professor Bayer, Chair; Professor Nechyba, Director of Economics Center for Teaching; Professor of the Practice Fullenkamp, Director of Undergraduate Studies; Visiting Assistant Professor Falba, Associate Director of Undergraduate Studies; Professors Abdulkadiroglu, Anton, Arcidiacono, Ariely, Bansal, Bollerslev, Burnside, Cloftelte, Cohen, Coleman, Conitzer, Cook, Darby, De Marchi, Frankberg, Gallant, Goodwin, Graham, Hoover, Hotz, Hsieh, Khan, Kimbrough, Kramer, Kranton, Kuran, Ladd, Lewis, Lopomo, Marx, McElroy, Munger, Peretto, Rubio-Ramirez, Sanders, Sloan, Tauchen, Taylor, Thomas, Tower, Vigdor, Viswanathan, and Weintraub; Associate Professors Ambrus, Conrad, Ergin, Field, Hamilton, Jaimovich, McAdams, Newell, Pattanayak, Patton, Pfaff, Rampini, Rossi, Smith, Timmins, and Yildirim; Assistant Professors Ananat, Badiani, Bellemare, Bianchi, Bugni, Chen, Hamoudi, Ilut, Leventoglu, Li, Macartney, Maurel, Mohanan, Ridley, Roberts, Sadowski, Sweeting, and Xu; Professors Emeriti Burmeister, Grabowski, Kelley, Naylor, Treml, and Wallace; Research Professors Becker, Caldwell, and Toniolo; Professor of the Practice Leachman; Associate Professors of the Practice Connolly and Rasiel; Senior Research Scholars Boyd

A major or a minor is available in this department, as well as a Finance Concentration for Majors and a Finance Minor.

Economics courses develop the critical and analytical skills essential for understanding economics and institutions, in both their contemporary and historical settings. Although no particular vocational or professional goal is emphasized, these courses provide the academic background necessary for positions in industry, for work in many branches of government service, for law school, and for graduate study in business administration, economics, and the social sciences.

Students planning to do graduate work in economics are advised to take as many of the following courses in mathematics (listed in preferential order) as their schedules permit: Mathematics 212, 221, 222, 356, and 431.

21. Principles of Microeconomics. This is the equivalent for Principles of Microeconomics from Advanced Placement on the basis of a score of 4 or 5 on the Advanced Placement Microeconomics exam, or credit for a sufficient score on a Duke-recognized international examination such as the International Baccalaureate. Only Economics 21 and Economics 22 together substitute for Economics 101. One course.

22. Principles of Macroeconomics. This is the equivalent for Principles of Macroeconomics from Advanced Placement on the basis of a score of 4 or 5 on the Advanced Placement Macroeconomics exam, or credit for a sufficient score on a Duke-recognized international examination such as the International Baccalaureate. Only Economics 21 and Economics 22 together substitute for Economics 101. One course.

23. Principles of Microeconomics. This is the equivalent for Principles of Microeconomics taken at another school or Duke-In Program. Only Econ 23 and Econ 24 together substitute for Econ 101. Instructor: Brown. One course.

24. Principles of Macroeconomics. This is the equivalent for Principles of Macroeconomics taken at another school or Duke-In Program. Only Econ 23 and Econ 24 together substitute for Econ 101. One course.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

101. Economic Principles. SS Basic microeconomic concepts such as demand and supply, market structures and pricing, market efficiency and equilibrium. Macroeconomic concepts such as inflation, unemployment, trade, economic growth and development. Different perspectives on issues of monetary and fiscal policy. Emphasis on public policy issues and the logic behind the economic way of thinking. Open to all students. Instructor: De Marchi, Fullenkamp, or Leachman. One course.

119. Introduction to Political Economy. EI, SS One course. C-L: see Political Science 177; also C-L: Politics, Philosophy, and Economics

174. Financial Accounting. QS, SS The accounting model of the firm, transaction analysis, the use of accounting information by management. Topics include procedures to process accounting data, income determination, financial statement analysis, cost behavior, budgeting, and short-run decisions. The
construction and interpretation of corporate financial reports. How a firm's performance is presented in the income statement, and how different revenue and expense recognition practices affect this performance measure. Does not count for economics major or minor requirements. Instructor: Skender. One course.

190A. Special Topics in Economics. Topics differ by section. Instructor: Staff. One course.

190FS. Focus Program Topics in Economics. SS Open only to students in the Focus Program. Topics vary each semester offered. Instructor: Staff. One course.

201D. Intermediate Microeconomics I. SS Introduction of the concepts of preferences and technologies. Intermediate development of the theory of demand, supply and competitive equilibrium from individual preferences and technologies. Income and substitution effects, uncompensated demand and marginal willingness to pay. Conditions under which competitive markets result in efficient outcomes. Conditions under which government policy has the potential to increase efficiency. Tension between economic efficiency and different notions of equity. Prerequisites: Economics 21 and 22 or 101; and Mathematics 21, 122, 122L, 202, 212 or higher level math. Instructor: Staff. One course. C-L: Health Policy

205D. Intermediate Microeconomics II. QS, SS Calculus-based generalization of the theory of demand and supply developed in Economics 201D. Individual behavior in environments of risk and uncertainty. Introduction to game theory and strategic interaction. Adverse selection, moral hazard, non-competitive market structures, externalities, public goods. Prerequisite: Economics 201D; Mathematics 202 or Mathematics 212 or any higher-level mathematics course with Mathematics 212 as a prerequisite. Instructor: Arcidiacono or Staff. One course.

208D. Introduction to Econometrics. QS, R Data collection, estimation, and hypothesis testing. Use of econometric models for analysis and policy. Prerequisites: Economics 201D; and Mathematics 112L, 122L, 202, 212, or higher; and Statistics 111, 130, 230, or 250 or Mathematics 230 or 342. Instructor: Sweeting, Tarozzi or Staff. One course. C-L: Information Science and Information Studies, Modeling Biological Systems

210D. Intermediate Macroeconomics. QS, SS, STS Intermediate level treatment of macroeconomic models, fiscal and monetary policy, inflation, unemployment, economic growth. Prerequisite: Economics 201D and Mathematics 202 or Mathematics 212 or Mathematics 222; Economics 205D may be taken as co-requisite. Instructor: Staff. One course.

212. Engineering Systems Optimization and Economics. SS One course. C-L: see Engineering 305; also C-L: see Engineering 305; also C-L: Modeling Biological Systems

222D. American Business History. CCI, CZ, R, W One course. C-L: see History 364D; also C-L: Markets and Management Studies


248. Racial and Ethnic Economic Inequality: A Cross National Perspective. CCI, EI, SS One course. C-L: see Public Policy Studies 294; also C-L: African and African American Studies 244


271. Basic Finance and Investments. QS, R, SS A survey of investments and corporate finance. The basic financial instruments, how they are used, traded, and priced; the financial decision-making processes of the
firm: project selection, dividend, and debt policy. Does not count for B.S., B.A. or Minor degree. Economics 271 is not open to students who have taken Economics 471, 372, and/or 373. Prerequisites: Economics 101; and Statistical Science 111, 230, 130, 250, and Mathematics 202 or higher. Instructor: Fullenkamp or staff. One course. C-L: Information Science and Information Studies, Markets and Management Studies


290FS. Focus Program Topics in Economics. SS Open only to students in the Focus Program. Topics vary each semester offered. Instructor: Staff. One course.

290S. Selected Topics In Economics. Topics vary each semester offered. Instructor: Staff. One course.

302. Introduction to Economic History. CCI, CZ, SS A survey of Western economic history: population, production, exchange, and institutions; from antiquity to the present. Prerequisite: Economics 201D. Instructor: Craig or staff. one course. C-L: History 306

304. The International Economy, 1850-Present: From Globalization to Globalization. CCI, CZ, SS Developments in the international economy (trade, migrations, capital movements), their causes and impact, against the background of "modern economic growth." The rapid integration of the Atlantic economy from the 1850s to the early 1910s, the subsequent "globalization backlash" (war, great depression and war again), and the slow reconstruction of international economic networks since 1945. Comparison of the current second globalization with the first one that came to an abrupt end in August 1914. Prerequisites: Economics 21 and 22 or 101 and Mathematics 21, 122, 122L, 202, 212 or higher level math. Instructor: Toniolo. One course. C-L: History 310

305S. History of International Financial and Monetary Crises. CZ, EI, SS Course examines monetary/financial crises plaguing world since 16th century. Analyzes origin, unfolding, and impact of crises, debates generated by them, and formulation/implementation of policy measures. Pays attention to international implications/connections on European and Asian money supply, banking and credit systems; reaction to South Sea Bubble and John Law Credit Systems in numerous European nations; experiments with paper money in America; rise and demise of the gold standard in the 19th and 20th century; currency and exchange rate problems of the last three decades. Case studies will be selected and assigned according to participants' interests. Prerequisites: Economics 205D and 210D. Instructor: Zanalda. One course.

306. Economic History and Modernization of the Islamic Middle East. CCI, CZ, SS, W Economic development of the Middle East from the rise of Islam to the present. Transformation of the region from an economically advanced area into part of the underdeveloped world. Role of religion in economic successes and failures. Obstacles to development today. Topics: Islamic economic institutions, economic roles of Islamic law, innovation and change, political economy of modernization, interactions with other regions, economic consequences of Islamism. Prerequisite: Economics 101 or 21 and 22 or instructor consent. Instructor: Kuran. One course. C-L: Political Science 417, Islamic Studies

311. History of Economic Thought. CCI, R, SS, W Approaches to economic problems from Aristotle to Keynes, emphasizing certain models and doctrines - their origins, relevance, and evolution. Readings from
Mun, Quesnay, Adam Smith, Malthus, Ricardo, Marx, Walras, Veblen, and Keynes. Prerequisite: Economics 201D. Instructor: Goodwin. One course. C-L: History 307, International Comparative Studies

**312. Adam Smith and the System of Natural Liberty. SS, STS** The writings of Adam Smith, including close readings of The Wealth of Nations and The Theory of Moral Sentiments, and selections from Mandeville, Hutcheson, Hume, Quesnay, Turgot, and Bentham. Focus on eighteenth-century views on the nature of society and the origins of prosperity, the luxury debate, and links between natural philosophy (including medical thought), and moral philosophy. Economics 311 desirable prior to taking this course. Prerequisites: Economics 201D. Instructor: De Marchi. One course. C-L: History 308, International Comparative Studies

**312S. Adam Smith and the System of Natural Liberty. SS, STS** Seminar version of Economics 312. The writings of Adam Smith, including close readings of The Wealth of Nations and The Theory of Moral Sentiments, and selections from Mandeville, Hutcheson, Hume, Quesnay, Turgot, and Bentham. Focus on eighteenth-century views on the nature of society and the origins of prosperity, the luxury debate, and links between natural philosophy (including medical thought), and moral philosophy. Economics 311 desirable prior to taking this course. Prerequisites: Economics 201D. Instructor: DeMarchi. One course. C-L: History 308S

**313. The Uses of Economics. CZ, R, SS, STS, W** The various ways economics is used in contemporary society: in the scholarly community, government, private sector, civil society, other disciplines, and popular culture. Readings in original texts and interpretative commentaries. Prerequisites: Economics 201D. Instructor: Goodwin. One course.

**314. The History of Modern Macroeconomics from Keynes to the Present. SS, W** Examination of key developments in macroeconomics from the 1930s through the present. Case studies of the evolution of macroeconomics in political and social context. Topics include the theory of unemployment in the Great Depression; growth theory and the rise of business cycle modeling in the aftermath of World War II; the trade-off between inflation and unemployment in the 1950s and 1960s; the debate over monetarism in the age of stagflation; and the rise of the New Classical Macroeconomics in its aftermath. Prerequisite: Economics 210D. Instructor: Hoover. One course.

**316S. History of Modern Economics. R, SS, STS, W** Selective survey of the development of economic thinking in the twentieth century, with emphasis on the construction of economics as a science. Research papers required. Prerequisite: Economics 201D. Instructor: Weintraub. One course.

**317S. Innovation, Entrepreneurs & VCs. R, SS, STS** Importance of technological innovation as a source of competitive advantage and role of start-up and mature firms in innovative activity. Particular attention given to financial institutions and venture capital firms in innovation process. Focus on market and policy developments in United States, but includes comparison with other countries. Case analyses and term paper required. Instructor: Staff. One course.

**318S. Economic Science Studies. SS, STS** Application of science and technology studies to problems in the history, philosophy, methodology, and sociology of economics. Addresses modern economics as an illustrative case of issues arising in Studies of Scientific Knowledge. What counts as "fact" in economics? Who decides? Why has mathematical economics enjoyed such success in recent decades? Close readings in texts across the sciences and in modern economics, and the history of mathematics, culminating in a research project. Prerequisite: Economics 201D. This course is only open to Juniors and Seniors; Sophomores must obtain instructor consent. Instructor: Weintraub. One course.

**319. The Philosophy and Methodology of Economics. EI, SS** One course. C-L: see Philosophy 345

**322S. Crime and Economics. SS** Crime and public policies affecting crime and punishment is an increasingly important aspect of U.S. society. Increasing current and former prison population make it important to analyze effects this "sector" has on the economy and society as a whole. Introduce students to the decision to commit a crime modeled in a rational framework. Analyze several economic models of crime and investigate effects of crime on the public and the criminal. Topics: public economics, labor economics, racial disparities and
inequalities, control theory, and anomie. Prerequisites: Economics 101, 201D, 205D, 210D. Economics 208D recommended. Instructor: staff. One course.

322SA. Economics of Creative Goods. R, SS Creative industries (especially the arts, entertainment) often distinguished by peculiarities of product (for example, non-durable), by special nature of financing and contracting (for example, option contracts), and by challenges they present to conventional analysis of pricing and consumption. Research report required. (Taught only in the Duke-in-Venice Program.) Prerequisites: Economics 201D or instructor's consent. Instructor: De Marchi. One course.

323. Microfinance. SS Grameen Bank and founder Muhammad Yunus won a Nobel Peace Prize for innovations in poverty alleviation through microfinance. Microfinancing as a development tool and agent of social change has spread to developing countries and has been adapted for use in developed nations. Focus on historical/theoretical basis of microfinance, review empirical findings regarding the success of microfinance. Students gain factual/historical information concerning development of the "microfinance revolution," learn basic theoretical/analytical tools needed to design microfinance programs, and engage in critical thinking regarding recent debates in field of microfinance. Prerequisites: Economics 205D and 210D. Instructor: Miller. One course.

323S. Cities as Incubators of Growth. CZ, R, SS, W Comparative and historical analysis of cities as natural incubators of innovation and growth. Exploration through analytical and empirical literature of the positive externalities created by close human contact, including knowledge and information exchange and concentrations of talent. Perspectives of economists, city planners and architects considered. Research project required. Prerequisite: Economics 201D. Instructor: De Marchi. One course.

325S. Economic Analysis of Current Energy Issues. SS, STS Examination of present-day sources and end-users of energy in U.S. and selected foreign nations with attention to external cost of energy systems. Fossil fuel prospects, new and renewable energy sources and nuclear power. Opportunities for increasing energy productivity. Proposals for dealing with climate change. Equip students to evaluate proposals and arguments from all sides of the energy debates using facts and analysis. Prerequisites: Economics 205D and 210D. Instructor: Burnside or staff. One course.

326. Islam and the State: Political Economy of Governance in the Middle East. CCI, CZ, R, SS Lecture version of Economics 326S. Introduction to political history of Middle East from advent of Islam 14 centuries ago to modern era. Four objectives: (1) familiarize students with institutions responsible for characteristics of political development in region; (2) examine particular transformations/selected cases of inertia to derive lessons about mechanisms that govern political development, including democratization; (3) investigate how religion shaped region's political trajectory; (4) identify social forces, especially economic forces, driving contemporary rediscovery/reinterpretation of Islam's political organization and requirements, by both Islamists and secular political actors. Instructor: Kuran. One course. C-L: Political Science 371

326S. Islam and the State: Political Economy of Governance in the Middle East. CCI, CZ, R, SS Seminar version of Economics 326. Introduction to political history of Middle East from advent of Islam 14 centuries ago to modern era. Four objectives: (1) familiarize students with institutions responsible for characteristics of political development in region; (2) examine particular transformations/selected cases of inertia to derive lessons about mechanisms that govern political development, including democratization; (3) investigate how religion shaped region's political trajectory; (4) identify social forces, especially economic forces, driving contemporary rediscovery/reinterpretation of Islam's political organization and requirements, by both Islamists and secular political actors. One course. C-L: Political Science 371S

327S. Decision Making in Business. QS, R, SS This course introduces commonly used quantitative tools of managerial economics and management science in practice. Situations often require ability to identify decision situations, model complex processes, use information available to make a choice. Specific topics include spreadsheet modeling, decision and risk analysis, Monte Carlo simulation, and optimization. Areas of application include inventory management, financial instruments, insurance, and capital budgeting, planning

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and marketing. Topics based on students' general interests will also be discussed. Prerequisites: Economics 205D and 210D. Instructor: staff. One course.

**328. Regulation and Deregulation in Public Utilities. QS, SS** Explores historical basis for regulation of public utilities, with focus on energy utilities, from an economic and legal perspective. Application of standard monopoly microeconomics leading to rate of return regulation is developed leading to discussion of evolution of economic thought on electric power system economics and changes in some states to "deregulate" the regulation of electricity markets. Case studies of recent developments in these markets, market clearing entities (e.g. PJM), basis for location marginal pricing, measures of market power, and pricing of capacity and reliability. Prerequisites: Economics 205D and 210D. Instructor: Boyd. One course.

**329S. Medical Malpractice. EI, R, SS, W** Seminar will focus on each of four medical malpractice "system" markets. Students will write a term paper on one aspect of one market. A book will be assigned and readings from journal articles. The seminar will be of interest to anyone who wants to learn more about medical malpractice, tort, how legal markets and insurance operate, and the political economy and ethical implications of "tort reform." Instructor: Sloan. One course.

**332S. Time Series for Financial Analysis. QS, R, SS** Theoretical/empirical tools and techniques in financial econometrics for modeling conditional distribution in discrete time. Topics include modeling conditional mean through ARMA models, variance through GARCH models, exploring alternative distribution to capture conditional asymmetry and Fat-tail. Models applied to Finance to measure value-at-risk of a portfolio, price European option and forecast term structure of interest rate. Individual research projects will advance overall understanding of conditional density modeling/testing, with possibility of continuing as senior honors thesis. Prerequisites: Economics 208D and one 300-level, or higher, Economics finance elective. Instructor: Staff. One course.

**334. Health Economics. SS** Economic aspects of the production, distribution, and organization of health care services, such as measuring output, structure of markets, demand for services, pricing of services, cost of care, financing, mechanisms, and their impact on the relevant markets. Prerequisite: Economics 205D or Public Policy Studies 303D. Instructor: Falba, Sloan or staff. One course. C-L: Public Policy Studies 331, Health Policy

**338. Economics of the Public Sector. SS** One course. C-L: see Public Policy Studies 304

**343. The Contemporary Art Market. ALP, R, SS** A historical and analytical study of the way art objects have been produced and marketed. Peculiarities of the product, applicable sales techniques, and pricing procedures. Attention to the role of dealers, auctioneers, the art of criticism and formation of preferences, and innovation. Comparative and longitudinal examinations of the evolution of practices, institutions, and the regulatory environment in art markets. Recommended: Economics 201D. Instructor: De MarchiI. One course. C-L: Art History 261, Markets and Management Studies


**347. African Economic Development. R, SS, W** This course will seek to provide students with a realistic picture of African economics and societies today, emphasizing their heterogeneity and accomplishments, as well as focusing on reasons for continued widespread poverty throughout the continent. The course develops behavioral models that can be used to explain and predict household, market, and government behaviors and
outcomes. Students are expected to quickly acquire basic stylized facts and economic models, and then analyze one of the many data sets now available. Instructor: Becker. One course.

348. Women in the Economy. CCI, EI, R, SS Economics of gender including the status of women in the labor market; feminist economic theories; ethical considerations of gender-based inequalities; gendered division of labor within the family and between the household and labor market. Situation of women in developing countries undergoing transition to market economies; gender-related measurements and indicators; explanations and remedies for female/male occupational segregation and wage differentials. Prerequisite: Economics 201D. Instructor: McElroy or staff. One course. C-L: Women's Studies 230

352. Economic Growth. CCI, R, SS Examination of the enormous differences in living standards across countries, which reflect differences in growth experiences. Study analytical foundations of modern growth theory and the most recent advances in modeling to shed light on old and new questions about such experiences. Instructor: Peretto. One course.

353. Monetary Economics. SS, STS The operations of commercial and central banking and non-banking financial institutions and instruments in the United States, determination of monetary aggregates and interest rates, the financial impacts of Treasury operations, and the linkages from Federal Reserve actions to price level, employment, economic growth, and balance of payments objectives. Coverage of models of monetary economics (for example the Cagan money demand function, cash in advance models). The dynamics and real effects of inflation. Prerequisite: Economics 210D. Instructor: Leachman, Kimbrough, or Staff. One course.

355. American International Economic Policy. CCI, SS, STS, W Topics include United States trade policies and protectionism, the North American Free Trade area, trade and economic relations with industrialized countries, policies toward developing countries and multilateral institutions, macroeconomic policy coordination, and relations with Europe. Prerequisites: Economics 201D. Instructor: Leachman or staff. One course. C-L: Public Policy Studies 288, Markets and Management Studies

361. Prisoner's Dilemma and Distributive Justice (A, C-N). EI, SS One course. C-L: see Political Science 351; also C-L: Philosophy 246, Ethics, Information Science and Information Studies

362. Psychology for Economists. R, SS Behavioral economics couples scientific research on the psychology of decision making with economic theory to better understand what motivates investors, employees, and consumers. An examination of topics such as how emotion rather than cognition determines economic decisions, "irrational" patterns of how people think about money and investments, how expectations shape perceptions, economic and psychological analyses of dishonesty by presumably honest people, and how social and financial incentives combine to motivate labor by everyday workers and CEOs alike. Prerequisites: Economics 205D and 210D. Instructor: Ariely.

362S. International Trade: Research Frontiers. SS, W Students introduced to articles of recent research in international trade and investment. Students will engage with literature, rewrite to make more accessible to classmates, evaluate it and propose how to extend it. By end of course, students will complete a pilot project, which may be extended to an honors thesis or a masters project. Prerequisites: Econ 105D and 110D. Instructor: Tower. One course.

367. Models of Conflict and Cooperation. SS Cooperative and noncooperative game theory with applications to trading, imperfect competition, cost allocation, and voting. Prerequisite: Economics 205D. Instructor: Graham. One course.

371. Labor and Family Economics. QS, R, SS Bridges gap between economic theory and real world data by giving students guided experience in answering real research questions using real data, drawing examples from the literature. Oral presentations and written summary/critiques of published papers in a workshop setting. Work with cross-section and panel data sets, with the aim of learning to manage such data and give credible answers to research questions by coping with problems such as omitted variable and selection bias, unobserved differences across agents, and endogeneity. Research questions drawn from Labor, family, and public economics. Prerequisites: Economics 205D and 208D. Instructor: McElroy. One course.

373. Corporate Finance. QS, R, SS Major corporate decisions from the perspective of the firm with an emphasis on the interaction of the firm with financial markets: quantitative project evaluation for investment, choice between borrowing and issuing stock, dividend policy, organizational form (for example, mergers and acquisitions). Introduction to financial markets: asset pricing, issuing stocks, analyzing financial performance using relative value tools, and options. Prerequisites: Economics 372 or Economics 205D and Economics 208D. Instructor: Fullenkamp. One course. C-L: Markets and Management Studies

374S. New Ventures Operating Plan. SS Course allows teams to follow structured process in carrying out analysis aimed at development of complete operating/business plan for new corporate venture. Four major areas form basis of operating plan: core competencies, elements of operating plan, budget, and financing plan. Instructor: Rhee. One course.

375. The Economics of Entrepreneurship. SS Application of microeconomic theory, such as game theory and industrial organization, to analyze business start-ups and their development. Focus on evaluation of the role of entrepreneurs in the macroeconomy, and the microeconomic performance of young businesses. The effects of government policies and economic fluctuations on entrepreneurs will be addressed, as well as an understanding of the organization and financial structure, development, and allocational decisions of growing entrepreneurial ventures. Instructor: Kim. One course.


377A. The Economics of Financial Derivatives & Financial Engineering. QS, SS Introduction to derivatives focused on economic functions as tools for hedging/risk management. Topics include: forwards, futures, swaps, options, parity conditions, binomial options pricing, Black-Scholes formula, financial engineering for risk management Value-at-Risk (VAR). Emphasis on intuition and common sense implementation of technical material. Abuses and potentials for arbitrage profits considered. Prerequisites: Economics 205D and 210D; and either a statistics/probability course or demonstrated knowledge of basic probability concepts such as means, variances, and covariances. 300 or 400 level finance class is helpful but not required. Consent of DUS required. Instructor: Tauchen. One course.


389. Politics, Philosophy, and Economics Capstone (A, C-N). R, SS One course. C-L: see Political Science 482; also C-L: Philosophy 465
390. Selected Topics in Economics. Topics vary by semester. Prerequisites: Economics 205D and 210D. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in Economics. CCI Topics differ by section. Prerequisite: Economics 201D. Instructor: Staff. One course.

390S. Selected Topics in Economics. Seminar version of Economics 390. Prerequisites: Economics 205D and 210D. Instructor: Staff. One course.

391. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic product. Consent of instructor and director of undergraduate studies required. Prerequisite: Economics 201D. Instructor: Staff. One course.

392. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic product. Consent of instructor and director of undergraduate studies required. Prerequisite: Economics 205D and Economics 210D. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Prerequisite: Economics 201D. Instructor: Staff. One course.

394. Research Independent Study. R Same as Economics 391, but for second-semester juniors and seniors. Consent of director of undergraduate studies required. Prerequisite: Economics 205D and Economics 210D. Instructor: Staff. One course.

411. Microeconometrics. QS, R, SS Empirical research in microeconomics, with emphasis on three main subfields: labor economics, public economics, and industrial organization. Focus on current empirical research in these areas and student independent analysis of current research using statistical software. Prerequisite: Economics 208D or 608D. Instructor: Staff. One course.

412. Applied Econometrics in Macroeconomics. QS, R Basic econometric methods useful in empirical economic research and forecasting. Topics include multiple regression analysis under nonstandard conditions; probit, logit, and other limited dependent variables; count data; simultaneous equation systems; and basic models with panel data. Macroeconomic applications. Prerequisite: Economics 208D or 608D. Instructor: Rossi or staff. One course. C-L: Modeling Biological Systems

413. Forecasting Financial Markets. QS, SS Introduces statistical models for financial price and risk. ARMA, GARCH, Value-at-Risk. Covers both theory underlying these models and practical implementation using statistical software (MATLAB). Prerequisites: Statistics 111 or Statistics 130; Mathematics 216 or Mathematics 222; or Mathematics 212 and Mathematics 221. Instructor: Patton. One course.

433. The Economics of Wages and Employment. R, SS Demand for and supply of labor, including human fertility, human capital, hours of work, and labor force participation. Effects of family structure, marriage laws, taxes and transfers (welfare, earned income tax credit) on labor supply and the distribution of income across families and individuals. Labor market discrimination, unions. Prerequisites: Economics 205D; and Statistical Science 111, 230, 130, 250, or Mathematics 230 or 342. Instructor: McElroy or Sloan. One course.

438. Public Finance. QS, SS Economic aspects of the allocative and distributive role of government in the economy, the incidence and efficiency of taxation, the effects of taxation on behavior, and analysis of major government spending programs. Prerequisite: Economics 205D or Public Policy Studies 287. Instructor: Falba or staff. One course. C-L: Public Policy Studies 289
439. **Economics of the Environment. SS, STS** The role of the environment in the theory and practice of economics. Topics include ways in which markets fail to efficiently allocate resources in the presence of pollution, along with the array of policies regulators used to correct those failures; the empirical techniques used by economists to put values on environmental commodities; and an examination of questions related to everyday environmental issues, particularly those confronting the developing world. Prerequisite: Economics 205D and Statistics. Instructor: Timmins. One course. C-L: Environment 363, Health Policy, Marine Science and Conservation, Energy and the Environment


445. **Urban Economics II. EI, R, SS** Historical evolution of cities from an economic perspective, considering the factors driving urban growth and decline at different points in history and the evolving organization of economic activity and social living within cities. Additional topics include dynamics of suburbanization and inner city decline, racial and ethnic segregation; urban industrial structure and spatial distribution of jobs; and impact of metropolitan political structure on urban sprawl and provision of public goods. Economics 205D required; Economics 208D (Econometrics) strongly recommended. Instructor: Bayer. One course.

446. **Economics of Global Health. QS, R, SS** Application of economic methods to examine key emerging issues in global health, with focus on health disparities. Emphasis on using economic models to better understand global health challenges and using econometric methods to empirically test hypotheses that seek to explain global health disparities. Discuss measurement of health and data quality. Explores individual, family and society-level determinants of health; impact of health on economic and social prosperity; demand and supply of health care. Discuss policy implications in each case. Prerequisites: Economics 205D and 208D; or Public Policy Studies 303D and Statistical Science 111 or 250; or consent of the instructor. Instructor: Thomas. One course. C-L: Global Health Certificate 331

455. **International Finance. CCI, SS** Analysis of the determinants of international capital movements, trade imbalances, and nominal and real exchange rates. Policy debates such as the foreign indebtedness of the United States, emerging market debt crises, exchange-rate-based inflation stabilization, and balance-of-payment crises. Prerequisites: Economics 372 or 205D and 210D. Instructor: Burnside or staff. One course.

462. **Behavioral Economics. QS, SS** Introduction to the insights gained from incorporating psychology into economic modeling. Based exclusively on original, often recent, scientific publications. Focus on empirical evidence, theoretical models and economic implications. Equilibrium analysis is essential analytical tool. Participants will each give a presentation of a scientific paper from the reading list. This course will build on mathematics covered in Mathematics 202/212/222. Prerequisites: Economics 205D. Instructor: Sadowski. One course.

463. **Law and Economics. EI, QS, SS** A qualitative and quantitative introduction to economic analysis of legal issues and legal reasoning. Case studies in accident law, product liability, and the value of life. Other topics include contracts, property, affirmative action, civil procedure, and the economics of criminal behavior. Some models examined include a calculus-based approach. Prerequisite: Economics 205D. Instructor: Graham or staff. One course.

464. **Competitive Strategy and Industrial Organization. QS, SS** Foundations of the field of industrial organization, including the theory of the firm, models of competition, market structure, pricing and dynamic models. Emphasis on theory with support from specific industries, including telecommunications, retail and airlines. Prerequisite: Economics 205D. Instructor: Khan or Yildirim. One course. C-L: Markets and Management Studies
471. Financial Markets and Investment. QS, SS The structure and workings of financial markets. Topics include risk-return relationships, aspects of portfolio selection, the capital asset pricing model, the arbitrage pricing theory, fixed income analysis, and aspects of derivatives. Prerequisites: Economics 205D or Economics 372; and Statistical Science 111, 230, 130 or 250, or Mathematics 230 or 342. Instructor: Bollerslev, Rasiel, or staff. One course. C-L: Visual and Media Studies 254

480S. Honors Junior Research Workshop in Finance. QS, R, SS Application of tools and techniques developed in statistics and economics to research into the structure of financial markets at the very high frequencies. Topics include testing for jumps in financial prices, the role of high frequency micro-structure noise that masks fundamental price, the importance of macroeconomic news announcements, the roles of various asymmetries such as volatility feedback, and interactions across financial markets at the very high frequency. Research project analyzing large data samples. Prerequisites: Mathematics 212, Statistical Science 111, Economics 205D, 210D, 208D and one finance course (Economics 471, 372, 373). Economics 208D and finance may be taken concurrently. Consent of instructor required. Instructors: Bollerslev and Tauchen. One course.


490. Selected Topics in Economics. Topics vary by semester. Instructor: Staff. One course.

490S. Selected Topics in Economics. Seminar version of Economics 490. Instructor: Staff. One course.

493. Honors Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is the production of an honors thesis, containing significant analysis and interpretation of a previously approved topic. Prerequisites: Economics 205D and Economics 210D. Consent of instructor and Director of Undergraduate Studies required. Instructor: Staff. One course.

495S. Honors Seminar I. R, SS, W First course in two-semester honors sequence. Guided research on student-selected topics. Iterative presentations and writing assignments on current literature related to student-selected topics and of student-developed research proposals. Course requires completion of research proposal suitable for write-up as honors thesis in Economics 496S. Prerequisites: Economics 205D and 210D. Instructor: Connolly, Kimbrough, or Staff. One course.

496S. Honors Seminar II. R, SS, W Following Economics 495S, iterative forum for conducting original research culminating in a substantive research project suitable for submission as an honors thesis. Prerequisites: Economics 205D and 210D. Consent of instructor required. Instructor: Connolly, Kimbrough, or staff. One course.

512. Equity Valuation and Financial Statement Analysis. QS This is a high-level course for those who have previously had experience in corporate finance and accounting. It is designed to give the student a deeper insight into important concepts relating to equity valuation and financial statement analysis, including such topics as international standards conversion, tax implications, long term liabilities and leases, and employee compensation. Instructor: Brown.

513. Structuring Venture Capital and Private Equity Transactions. The course will focus on the design and implementation of corporate merger and acquisition transactions, including acquisitions of stock and assets of non-public corporations and acquisitions of publicly-held corporations in negotiated and hostile transactions. The course will cover federal securities law and state corporate law issues, including important forms of private ordering, such as poison pills, lock-ups, earnouts and the allocation of risks by the acquisition agreement. Relevant accounting, tax and antitrust issues and various regulatory considerations will also be covered. Instructor: Bill (Glenn) Brown.
514. Fixed Income Markets and Quantitative Methods. QS The areas of focus will include: The value of money and discounted cash flow concepts, statistics, probability concepts, correlation & regression, understanding risks associated with bonds, and bonds with embedded options, and mortgages and the mortgage markets. Instructor: Brown.

515. Introduction to Law & Economics. One course. C-L: see Law 359

521. Evaluation of Public Expenditures. SS One course. C-L: see Public Policy Studies 596; also C-L: Environment 532, Health Policy


530. Resource and Environmental Economics. SS One course. C-L: see Environment 520; also C-L: Public Policy Studies 576, Health Policy, Marine Science and Conservation

530L. Resource and Environmental Economics. One course. C-L: see Environment 520L; also C-L: Public Policy Studies 575L, Health Policy, Marine Science and Conservation

542S. Social Change, Markets, and Economy in China. CCI, SS One course. C-L: see Sociology 651S


555S. International Trade. R, SS International trade, investment and migration, commercial policy, and the political economy of trade. Prerequisite: Economics 205D; and Economics 210D. Instructor: Kimbrough or Tower. One course. C-L: Canadian Studies

558. Islam and the State. Introduction to political history of Middle East. Four objectives. (1) familiarize students with institutions responsible for political development in region. (2) examine transformations/cases of inertia to derive lessons about mechanisms that govern political development, including democratization. (3) investigate how religion shaped region’s political trajectory (4) identify social forces, especially economic, driving contemporary reinterpretation of Islam’s political organization and requirements, by both Islamists and secular political actors. Graduate pairing for Econ 134 that requires additional work; for graduate students only. Not open to students who have taken Economics 134. Instructor: Kuran. One course.

567S. Computer Modeling. QS, R, SS, W Introduction to the use of computer techniques in economic policy evaluation; policy applications to international economics, public finance and development economics; computer analysis of linearized and nonlinear models using Excel and GAMS. Students required to complete a major modeling project. Prerequisites: Economics 205D and 210D. Instructor: Tower.

568S. Current Issues in International and Development Economics. SS, W Issues of income distribution within and between countries, vehicles for growth, regional development, the role of politics in economic policy, multinational institutions. Cross-country and cross-time comparisons. Emphasis on individual research projects. Prerequisite: Economics 205D and Economics 210D. Instructor: Tower. One course. C-L: International Comparative Studies 512S, Canadian Studies


590. Selected Topics in Economics. SS Instructor: Staff. One course.

590S. Selected Topics in Economics. SS Seminar version of Economics 590. One course.

606. Advanced Macroeconomics II. Course considers macroeconomic models and computational tools. Will benefit those interested in going to doctoral program, as the course covers underlying tools for PhD macroeconomics. Basic Dynamic Stochastic General Equilibrium macro models reviewed and used to learn numerical and empirical approaches. Course emphasizes real business cycle theory and sticky price models.
for monetary policy; linearization around steady states; and Bayesian estimation of DSGE models. How modern monetary policy research is implemented in practice. First half of course focuses on numerical analysis; second half devoted to empirical analysis and sticky price models. Instructor: Ochoa. One course.

612. Time Series Econometrics. SS Empirical research in macroeconomics and international finance, providing students with a series of econometric tools for empirical analysis of time-series and an introduction to the current empirical research in macroeconomics, international finance, and forecasting. Small project and simple empirical research required. Prerequisites: Satisfactory performance (as judged by the instructor) in Econometrics (Economics 208D) plus a course in Linear Algebra or consent of the instructor. A course in macroeconomics (Economics 210D) is very useful but not strictly enforced. Instructor: Rossi. One course.


673. Mathematical Finance. QS One course. C-L: see Mathematics 581

690. Selected Topics in Economics. SS Instructor: Staff. One course.

690S. Selected Topics in Economics. SS Seminar version of Economics 690. Instructor: Staff. One course.

THE MAJOR

The undergraduate degree in economics signifies achievement of proficiency in quantitative skills and experience in applying these to economics.

For the A.B. Degree

Prerequisites: Economics 21 and 22; or 101. Economics 201D. Mathematics 122 and 202; or 212, or 222, or any higher-level mathematics course with Mathematics 212 as a prerequisite. Statistics 111, Statistics 230/Mathematics 230, Statistics 130 or Statistics 250/Mathematics 342. Statistics is a prerequisite for Economics 208D and many other 300/400-level economics courses and therefore should be taken by the fall of sophomore year. Prerequisites for the major, as well as requirements, may not be taken pass/fail.

Requirements: Three core courses: Economics 205D, Economics 210D, and Economics 208D. Students are encouraged to complete these classes no later than the spring of their sophomore year. Five electives chosen from economics courses at the 300 level or above with at least one course at the 300 level and at least one course at the 400 level. Courses 500-549 can only be counted toward the major with the approval of the Director of Undergraduate Studies. For students entering in Fall 2002 or later, at least one of these five courses must be in either economic history or the history, philosophy or sociology of economics (Economics 322SA, Economics 302/History 306, Economics 319/Philosophy 345, Economics 304/History 310, Economics 312/History 308, Economics 311/History 307, Economics 313, Economics 314, Economics 316S or Economics 318S, or other courses with the approval of the Director of Undergraduate Studies).

For the B.S. Degree

Students who contemplate graduate study in economics are urged to develop skills in intermediate calculus (Mathematics 212), linear algebra (Mathematics 221), differential equations (Mathematics 356), and advanced calculus (Mathematics 431).

Prerequisites: Economics 21 and 22; or 101. Economics 201D. Mathematics 122 and 202; or 212, or 222 or any higher-level mathematics course with Mathematics 212 as a prerequisite. Statistics 111, Statistics 230/Mathematics 230, Statistics 130 or Statistics 250/Mathematics 342. Statistics is a prerequisite for Economics 208D and many 300/400-level economics courses and therefore should be taken by the fall of sophomore year. Prerequisites for the major, as well as requirements, may not be taken pass/fail.

Requirements: Three core courses: Economics 205D, Economics 210D and Economics 208D. Students are encouraged to complete these classes no later than the spring of their sophomore year. Five electives
chosen from any economics courses at the 300 level or above with at least one course at the 300 level and one course at the 400 level. Courses 500-549 can only be counted toward the major with the approval of the Director of Undergraduate Studies.

Substitution of similar courses in other departments at Duke for courses in the Department of Economics used toward major requirements is not permitted. A maximum of two transfer and/or study abroad credits may be counted toward major requirements. (The only exception applies to study abroad credit from the full year program at the London School of Economics, from which a maximum of four transfer and/or study abroad credits may be counted toward major requirements.)

**For the B.S. Degree with Concentration in Financial Economics**

The Economics department also offers a B.S. Degree with a concentration in financial economics. Certification of this concentration is designated on the official transcript. Students who wish to pursue this designation must complete the requirements for the B.S. Degree with the addition of the following requirements.

**Requirements:** Economics 372: Intermediate Finance. Three electives chosen from among the following economics courses: Economics 471, 455, 373, 274, 480S, 486S, 673/Math 581 and others with approval of DUS. Students graduating with a concentration in financial economics may *not* include Econ 372 as one of the five electives required for the B.S. Degree in Economics.

The Department of Economics maintains online resources to guide economics majors and minors: [http://econ.duke.edu/undergraduate](http://econ.duke.edu/undergraduate).

**DEPARTMENTAL GRADUATION WITH DISTINCTION**

**Awarding of Distinction**

A student will be awarded Distinction upon graduation if he/she has satisfied all of the following requirements:

1. A minimum grade point average of 3.3 in the major and 3.3 overall;
2. Completion of five electives commensurate with an undergraduate A.B. or B.S. degree;
3. Completion of an honors paper with a minimum grade of B+ determined by the primary instructor and an outside reader if taking path 1 (see below). If taking path 2, the Honors committee will determine if the honors thesis qualifies for graduation with distinction.

**Awarding of High Distinction**

A student will be awarded High Distinction upon graduation if he/she has satisfied all of the requirements for Distinction and his/her honors thesis is selected by our Honors committee from among nominated theses.

**Awarding of Research Distinction**

In recognition of the strong independent research dimension required of a successful honors thesis, a student will be awarded Research Distinction upon graduation if the Honors committee determines his/her thesis qualifies for graduation with distinction regardless of whether or not the student meets the University and departmental GPA standards for graduation with distinction. These students will be recognized in the departmental graduation program.

**Paths to the Honors Thesis**

An honors thesis is a research paper completed during the senior year of the economics major. It represents a degree of research and critical thinking sufficiently complex and sophisticated as to require two to three semesters' worth of work. The thesis is planned, researched, drafted, and revised over the course of two to three semesters, using research tools and techniques commensurate with an undergraduate B.S. degree.

To be considered for Graduation with Distinction in economics, students must pursue one of two paths outlined below.

1. The best setting in which to foster the research process is a two-semester workshop, resembling graduate workshops. In a workshop setting, students meet with their professor(s) and each other to observe advanced research (professors from outside the university, Duke economics graduate
students, and Duke economics professors present their own research to the students), and then, in turn, develop and later present their own research on a regular biweekly basis, continually receiving feedback from their peers and from professors and graduate students. The department offers two distinct two-semester research workshop sequences for students interested in writing an honors thesis: Honors Seminar I (Economics 495S) and Honors Seminar II (Economics 496S); and for those students interested specifically in finance, Honors Junior Research Workshop (Economics 480S) and Honors Senior Research Workshop (Economics 486S). Students do not necessarily have to qualify for Graduation with Distinction in order to enroll in these research workshop sequences, nor will completion of either sequence guarantee Graduation with Distinction. Students who follow Path 1 will qualify for Graduation with Distinction or High Distinction if the honors thesis is awarded a minimum grade of B+. This grade will be determined by the instructor and confirmed by an outside reader. Note: Should a problem arise that prevents a student from completing this sequence, they can switch to Path 2 described below.

Students who follow Path 1 may begin as early as the spring semester of their junior year. Davies Fellowships are available to sponsor some of these juniors (and their mentors) to enable them to do research full time under the supervision of their advisor during the summer between their junior and senior years.

2. Students choosing this path enroll in a Research Independent Study (Economics 394) in either the spring of their junior year or the fall of their senior year, under the instruction of the mentoring faculty member. In the following semester (or in a subsequent semester), the student enrolls in an Honors Research Independent Study (Economics 493) and completes the thesis. For the Independent Study courses (Economics 394 and Economics 493), students must enlist the approval of a specific faculty member (through submission of an approval form to the Director of Undergraduate Studies) indicating that the faculty member is willing to work with the student for an entire academic year in an independent study format to produce an honors thesis. Students who start on Path 2 may switch to Path 1 by enrolling in Honors Seminar II (Economics 496S) with the signature of their faculty mentor and the approval of the 496S instructor (which is gained by submission of a satisfactory thesis proposal).

THE MINOR

Requirements: Economics 21 and 22; or 101. Economics 201D. Three additional economics courses, of which no more than one course may be at the 200 level other than Economics 205, 208, and 210, which may all be counted toward the minor; and two courses at the 300 level or higher. Courses 500-549 can only be counted toward the minor with the approval of the Director of Undergraduate Studies. Substitution of similar courses in other departments at Duke for courses in the Department of Economics used toward minor requirements is not permitted.

MINOR IN FINANCIAL ECONOMICS

Minor Requirements: Economics 21 and 22; or Economics 101. Statistics 111 or Statistics 130 or Statistics 210; or both Statistics 230/Mathematics 230 and Statistics 250/Mathematics 342. Mathematics 222 or Mathematics 216; or both Mathematics 212 and Mathematics 221. Economics 372. Three electives to be selected from among the following: Economics 471, 455, 373, 274, 480S, 486S, 673/Math 581, BME 385, and others with approval of DUS.

Education (EDUC)

Associate Professor of the Practice Riggsbee, Director of the Program; Associate Professor of the Practice Malone, Director of Undergraduate Studies; Associate Professor of the Practice Wynn; Assistant Professors of the Practice Ammons, Jentleson and Stephens; Instructors Anderson and Sikes; University Distinguished Service Professor Emeritus O’Barr; Professor of the Practice Emeritus Ballantyne; Associate Professor of the Practice Emeritus Di Bona; Joint Appointments: Professor Cooper; Assistant Professor Linnenbrink-Garcia; Associate Professor of the Practice Bookman; Affiliated Faculty: Adjunct Professor Eubanks and Trask;
Adjunct Associate Professors Heisler and Wilson; Adjunct Assistant Professors Crumley and Teasley; Adjunct Associate Professors of the Practice Airall, Lattimore, and Thomas; Adjunct Assistant Professors of the Practice Carboni, Pittman, and Prillaman; Adjunct Lecturers Chafe and Wasiolek; Adjunct Research Scholars Brewster and Hicks; Visiting Lecturers Alden and Brown; Adjunct Instructor Miglarese

A minor, but not a major, is available in this department.

**89S. First-Year Seminar.** Topics vary each semester. Instructor: Staff. One course.

**101. Social and Philosophical Foundations of Education.** CCI, EI, SS Interdisciplinary examination of issues confronting American education, incorporating historical, political, economical, philosophical, and social perspectives. Exploration of ways cultural influences and differences have shaped public schools. Students participate in structured service learning experience in which they reflect on ethical issues related to schooling. Required participation in service learning. Instructor: Anderson, Jentleson, or Sikes. One course. C-L: Marxism and Society, Ethics Courses Offered Through Other Departments

**111FS. Pursuit of Equality: Rethinking Schools - Lens of Social Justice.** CCI, EI, SS In 1954 the Supreme Court case Brown versus the Board of Education forever changed American schools by ending segregation and creating educational equity. Or did it? Are today's schools any more inclusive or socially just than schools were 50 years ago? Examination of ways schools may or may not perpetuate and reproduce social inequities. Focus on recent efforts to imagine and create socially-just schools. Discussion of our ethical responsibilities as civically engaged citizens to work towards educational equality and provide support of schools that are inclusive, culturally responsive, and democratic. Required service-learning experience working with children in a Durham public school. Instructor: Malone and Riggsbee. One course.

**182FS. Civic Engagement, Service, and Social Ideals.** CCI, EI, SS Civic engagement and service learning as pedagogical approaches in both K-12 and college settings. The ways civic engagement experiences may impact students' perspectives of race, class, gender. Education as a transformative experience. Includes a service learning experience focused on literacy issues in K-12 schools in which students write reflections on ethical issues. Open only to students in the Focus Program. Instructor: Malone. One course.

**190S. Special Topics.** Topics vary each semester. Instructor: Staff. One course.

**209S. A Digital Approach to Documentary Photography: Capturing Transience.** ALP One course. C-L: see Documentary Studies 209S; also C-L: Visual Arts 212S, Visual and Media Studies 212S, Information Science and Information Studies

**234S. Anthropology and Education.** CCI, EI, SS Exploration of different conceptions of culture and the importance of employing cultural lenses to examine the process of education. Investigation, in particular, of the impact of culture and issues of race, class and gender in American schools. Instructor: Airall. One course. C-L: Cultural Anthropology 234S

**237. Contemporary Issues In Education.** CCI, EI, SS Investigation of current issues and problems in the field of education including areas of race, gender, equity, and educational policy. Examines issues from an interdisciplinary perspective. Includes fieldwork in local public schools. Required participation in service learning. Instructor: Anderson or staff. One course. C-L: Children in Contemporary Society, Ethics Courses Offered Through Other Departments

**239. Marxism and Society.** CZ, EI, SS One course. C-L: see Literature 380; also C-L: Cultural Anthropology 203, Sociology 339, International Comparative Studies, Marxism and Society

**240. Educational Psychology (C, D).** CCI, EI, SS Principles of developmental, social, and cognitive psychology as applied to education, with a focus on how children learn. Examination of the impact on learning of race, class, gender, and ethnicity, including a comparative analysis of cultural differences in American schools. Through structured service learning experiences in local schools, students reflect through writing on ethical issues in teaching. Required service learning. Instructor: Linnenbrink-Garcia, Malone. One course. C-L: Psychology 240, Children in Contemporary Society, Ethics Courses Offered Through Other Departments
241. Promising Paradigms: Issues and Innovations in American Classrooms. EI, SS, STS Examination of promising educational initiatives and reform efforts, analysis of federal and state mandates and policies concerning educational issues, and exploration of innovative ideas and programs designed to advance classrooms into the 21st century. Focus given to the ethical and political implications of reforming America's schools within the context of policy development. Note: This is an online course with both synchronous and asynchronous components. Contact the instructor for additional information. Consent of instructor required. Instructor: Stephen. One course. C-L: Public Policy Studies 245

243S. Children, Schools, and Society. CCI, EI, SS, W The processes by which children are educated in the United States. Ways children acquire through schooling social skills, moral values, and a sense of their role in society. Evaluation of the appropriateness of these goals for schooling, how schooling shapes children's development, and how the education policies that sanction these processes are formed. Application of theory and research for solving complex societal problems that confront children, schools, and communities. Required participation in service learning. Instructor: Wynn. One course. C-L: Public Policy Studies 243S, Children in Contemporary Society, Ethics Courses Offered Through Other Departments

244S. Children's Self Expression: Literacy Through Photography. EI, SS One course. C-L: see Documentary Studies 224S; also C-L: Visual and Media Studies 207S

251S. Literacy and Service Learning. CCI, EI, SS Recent research on the role of service learning in promoting literacy development in children; the impact of service learning, volunteering, and school-based tutoring programs on students in K-12 schools; literacy issues such as phonics versus whole language; cognitive approaches to developing reading comprehension; methods of teaching beginning reading; reading learning disabilities; and the impact of cultural diversity on literacy. Includes a service-learning component in the local schools. Required participation in service learning. Instructor: Malone. One course. C-L: Ethics Courses Offered Through Other Departments

252S. Civic Engagement and the Duke-Durham Partnership. CCI, EI, R, SS The impact university-community partnerships have on the community and participating university students. Effective models of collaboration between universities and their surrounding communities. Whether university efforts to develop partnerships with local communities result in meaningful social change. Includes a service-learning component in which students turn in weekly reflections on the ethical issues and social justice concerns they encounter. Consent of instructor required. Instructor: Ahern-Dodson. One course. C-L: Ethics Courses Offered Through Other Departments

253S. Research in Service Learning. CCI, EI, R, SS Community-based research including design, implementation, evaluation of research in community settings. Examination of existing models of collaboration on research projects between universities and communities. Includes student participation in community-based service learning and research, writing about the ethical issues that emerge. Instructor: Staff. One course.

255S. Literacy, Writing, Tutoring. SS, W Theories of literacy and high school and college level teaching tutoring practices. Composition studies, literacy studies, and writing center/tutoring theories. Includes tutoring students. Instructor: Russell. One course.

290. Selected Topics. Instructor: Staff. One course.

290A. Duke-Administered Study Abroad: Special Topics in Education. CCI Topics differ by section. Instructor: Staff. One course.

290S. Selected Topics. Selected topics seminar. Instructor: Staff. One course.

290T. Freshman-Sophomore Tutorials (TOP). Small group discussions of significant books, authors, and ideas in education. May be repeated. Consent of instructor and Director of Undergraduate Studies required. Instructor: Staff. Half course.

307S. Issues of Education and Immigration. CCI, FL One course. C-L: see Spanish 307S; also C-L: Latino/a Studies in the Global South 307S
282 Courses and Academic Programs

309. Global Education. CCI, EI, SS, STS Major educational changes and reforms in selected countries designed to illustrate general similarities and differences in the policies of developing and industrialized societies. Emphasis on American educational issues in the context of the emerging global economy with a focus on how policies affect various cultural groups due to economic, social, cultural, or gender diversity. Exploration of the ways technological innovation is changing schools and the teaching/learning process. Instructor: Staff. One course.

321S. Infancy, Early Childhood, and Educational Programs. CCI, EI, SS A comprehensive introduction to the field of early childhood education and child development from infancy to age eight. Examines programs, strategies, trends, and methods that reflect current educational practice and research. Involves structured service learning experiences in which students engage in comparative analysis of children of various cultures. Students also examine ethical issues encountered in early childhood programs. Instructor: Staff. One course. C-L: Children in Contemporary Society

325S. Unrecognized Talent: Minority Children and Gifted Education. CCI, EI, SS Investigation of society, counselors, teachers, parents, and self in the social, emotional, and academic development of the minority gifted child. Focus on cultural comparisons relating to the manifestation of giftedness, ways of reversing under-representation of minority students in programs for the gifted, and ethical issues relating to the use of tests in identifying giftedness as it relates to minority students. Instructor: Stephens. One course. C-L: Children in Contemporary Society

333S. Legal Issues in Education. R, SS, W A case analysis approach giving students an opportunity to identify and review past, current, and emerging legal issues and theories in education. Topics include students' rights (for example search and seizures, due process), institutional liability and teacher's rights at the elementary and secondary levels and in the college setting. Instructor: Wasiolek. One course.

340. The Psychology of Work. CCI, SS, STS An interdisciplinary examination of career choice and development with particular focus on ways work may change in the future, including the impact on work of major developments in science and technology. Comparative analysis of work across cultures and within American society. Instructor: Staff. One course.

346S. Gender At Duke. CCI, EI, R, SS Gender systems at Duke, with emphasis on gender differences in the University's culture and ideals. Historical examination of the ethical arguments about institutional policies. Student research based on documents in University archives. Instructor: O'Barr. One course.

347. Urban Education. CCI, SS One course. C-L: see African and African American Studies 381; also C-L: Sociology 336, Children in Contemporary Society

356S. Digital Durham. ALP, STS One course. C-L: see Information Science and Information Studies 356S; also C-L: Visual and Media Studies 358S

359. Educating Diverse Learners Through Community Collaboratives. CCI, EI, SS Exploration of research-based pedagogies with an emphasis on how middle school students learn. Role of parents and the community in the schooling process will be examined. Using Durham as a case study, students will examine educational issues from historical, political, economic, psychological, and social perspectives. This course requires a service learning component. Instructor: Riggsbee. One course.

363. Educational Leadership In and Beyond the Classroom. EI, R, SS, W Introduction to study of culture, organization, and leadership in K-12 schools. Exploration of the history of leadership theories and practices and their application to current educational settings. Focus on moral dilemmas, ethical concepts, and general nature of ethical reasoning in varied school settings. Contrast the current focus on school reform through increased accountability, high stakes testing, and standards with the power of shared systems of norms, values, and traditions. Study of essential skills of leadership: communication, human relations, shared decision making, and conflict resolution. Includes a service-learning component involving work in the community. Instructor: Wynn. One course.
366. Exceptional Learners: Policies and Practices. R, SS Provides a foundation of legal, social, educational, and psychological concepts focusing on understanding of exceptional learners. Explores social, cultural, and family context in which exceptional children live and learn. Educational approaches discussed within context of educational restructuring, with emphasis on determining appropriateness of educational placement of students viewed as exceptional. Overviews of various approaches to instructional interventions for students with exceptionalities are also examined. Prerequisites: Education 101, 240 or 243S. Instructor consent required. Instructor: Stephens. Half course.

390T-1. Junior-Senior Tutorials (Topics). Small group discussions of significant books, authors, and ideas in education. The availability of tutorials, their content, and the instructors will be announced before preregistration. Consent of instructor required. Instructors: Staff. Half course.


391. Independent Study. Directed readings in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or project on a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive research paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.


408S. Teaching Practices in Elementary Language Arts and Social Studies. CCI, EI, SS Research-based teaching practices in elementary language arts and social studies for culturally diverse populations. Emphasis on literacy development across grade levels and content areas. Readings and field experience promoting critical analysis of ethical teaching practices, role of teachers and schools in society, and impact of teacher affect on environment and student learning. Consent of instructor required. Includes a service-learning component involving work in the community. Instructor: Riggsbee. One course. C-L: Ethics Courses Offered Through Other Departments

409S. Elementary Curriculum. Analysis, development, and evaluation of elementary curriculum with emphasis on integrating the expressive arts with literacy, mathematics, social studies, and science. Using Gardner's multiple intelligences model of learning, students write comprehensive curriculum units that focus on meeting the needs of learners from diverse social, ethnic, and cultural groups. Consent of instructor required. Instructor: Riggsbee. One course.

410S. Research/Reflective Practice Elementary Education. R, SS, W Classroom-based action research and structured reflection to promote the development of inquiry-oriented teachers. Systematic, long-term research project focused on meeting the diverse needs of learners in the elementary classroom. Consent of instructor required. Instructor: Staff. One course.

420. Elementary Education: Internship. EI Engagement, as part of a teaching internship in elementary schools, in active classroom research projects by designing, implementing, and evaluating units of instruction. Creation of a portfolio of products to demonstrate technology competencies for teaching certification. Students also reflect and write on ethical issues involved in their service experiences in public schools. Consent of instructor required. Instructor: Riggsbee. Two courses.
**430S. Women and the Professions.** EI, R, SS, W
Interdisciplinary analysis of the history of ideas about women and the professions with emphasis on women's actions, past, present and future. The changing status of women in professional life; ethical and political implications of public and personal decision-making. Study of research and writing by and about women in professional fields; interviews with working women. Research paper integrating students' major, the internship experience and their future goals required. Senior seminar open only to Baldwin Scholars. Consent of instructor required. Instructor: Staff. One course. C-L: Sociology 430S, Ethics Courses Offered Through Other Departments

**460S. Early Childhood Internship.** EI
Structured supervised internship in an early childhood program integrated with a reflective seminar in which students examine ethical issues in early childhood education. Includes comparative analysis of childhood experiences in different cultures. Instructor: Jentleson. One course.

**490A. Duke-Administered Study Abroad: Advanced Special Topics in Education.** CCI
Topics differ by section. Instructor: Staff. One course.

**490S. Selected Topics.**
Selected topics seminar. Instructor: Staff. One course.

**495. Teaching Practices in Secondary Education.**
Secondary School curriculum and instruction with special emphasis placed on meeting the needs of high school students from diverse cultural backgrounds. Includes field-based experience with a focus on examining ethical teaching practices. Instructor: Staff. One course.

**496S. Secondary School Issues: Pedagogy, Culture, and Methods.** CCI, EI, SS, STS
Examination of schools and classrooms of the twenty-first century with focus on values, beliefs, and assumptions underlying teaching and learning in high school. Emphasis on ethical issues in teaching, pedagogical and methodological practices, teacher leadership, and impact of technology on schooling. Exploration of social fabric of schools as related to diversity, educational philosophies, and school culture by viewing these constructs from divergent perspectives. Students complete an extensive research project based on fieldwork in a local high school. Instructor: Wynn. One course. C-L: Ethics Courses Offered Through Other Departments

**497S. Seminar in Secondary School Teaching.** EI, R
Principles, practices, and problems in secondary school instruction, including a focus on values and ethics in teaching. Consent of instructor required. Instructor: Wynn. One course.

**498. Secondary Education: Internship.** R
Supervised internship in a teaching center in a senior high school involving some full-time teaching. Students also complete an action research project focused on an important issue in classroom teaching. For student teachers only. Consent of instructor required. Instructor: Staff. One course.

**514. Technology, Society, and Schools.** SS
Role of technology in schools and society. Introduction for preservice teacher candidates to technology tools including Photoshop, web design, and digital storytelling. Emphasis on integrating technology into instruction and utilizing technology to become educational leaders. Includes elements of design through completion of online portfolio. Designed to meet the North Carolina Department of Public Instruction technology requirements for teaching licensure. Consent of instructor required. Instructor: Wynn or Crumley. Half course.

**542S. Schooling and Social Stratification.** CCI, SS
One course. C-L: see Public Policy Studies 542S; also C-L: African and African American Studies 549S

Introduction to characteristics and unique educational and affective needs of gifted learners. Analysis of philosophical considerations, historical perspectives, definitions and types of giftedness, incidence, and evaluation procedures. Cultural comparisons of the manifestations of giftedness, ways of reversing underrepresentation of minority students in programs for the gifted, and affective social-emotional topics/issues relating to giftedness. This course is a post-bacc, non-degree course not open to Duke undergraduates. Consent of instructor required. Instructor: Staff. One course.

**621. Methods and Materials for Teaching the Gifted Learner: Procedures for Differentiating Instruction.** Fundamental procedures for differentiating instruction for gifted and talented students.
Comparison of theories and research models regarding instructional practice. Focus on research based instructional strategies. Apply, analyze, implement, and evaluate various methods and models of gifted education. This course is a post-bacc, non-degree course not open to Duke undergraduates. Consent of instructor required. Instructor: Staff. One course.

**690S. Selected Topics Seminar. SS** May be repeated. Consent of instructor required. Instructor: Staff. One course.

**THE MINOR**

The Minor in Education is designed to provide students who are majoring in Arts and Sciences disciplines with opportunities to combine coursework in their majors with academic and field-based experiences focused on the complex social, psychological, economic, historical, political, and cultural issues that impact schools and school children.

*Requirements.* A total of five courses including three required courses (Education 101; Education 240; and a third required Education course chosen from a group of courses that address pedagogical theory and practice and the impact of individual differences and social diversity on teaching and learning; this third required course must be approved by the Director of Undergraduate Studies in Education, and involve a field-based experience). The fourth and fifth courses are electives that must be Education courses at the 200 level or above. Only one of the five courses may be taken at an institution other than Duke.

**UNIVERSITY PROGRAM FOR PREPARATION FOR TEACHING**

The Duke University Teacher Preparation Programs offer secondary teacher licensure programs at both the undergraduate and Master’s levels and an elementary licensure program at the undergraduate level. A common conceptual framework—preparing knowledgeable and skilled instructors who conduct themselves professionally and ethically as they practice reflective teaching—links the Teacher Preparation Programs. As students complete general education requirements of Trinity College and of a selected major, they may also fulfill requirements of an approved Duke Teacher Preparation Program and become licensed to teach. Licensure by the Duke-approved program is authorized through the State Board of Education in North Carolina and is reciprocal with most states. A license to teach along with an undergraduate degree is required by most public school systems and is recommended by many independent schools.

Brief descriptions of two undergraduate programs based on Bachelor of Arts or Bachelor of Science degrees (secondary school teaching and elementary teaching) are followed by a description of a program for secondary teaching based on a Master of Arts in Teaching degree. The goals of and criteria for admission to any of these programs are available from the respective offices.

Duke University is accredited by the North Carolina Department of Public Instruction (DPI) and the National Council For Accreditation of Teacher Education (NCATE) and has reciprocal approval for initial licensure with most of the fifty states. Title II data is available upon request.

**Secondary School Teaching (A. B. or B. S. degree)**

The Program in Education offers secondary school teacher licensure programs in English (open to English majors only), mathematics (open to mathematics majors only), social studies (open to majors in cultural anthropology, economics, history, political science, psychology, public policy, religion, or sociology) and science (open to majors in evolutionary anthropology, biology, chemistry, environmental studies, geology, or physics). Prospective teachers are advised to consult with the academic advisors in their majors and the secondary program director concerning their interest in teaching and in being accepted into this preparation program.

Interested undergraduate students may apply to the secondary school teaching program in the spring of their sophomore year or the fall of their junior year. Students are accepted by competitive criteria into a program which includes education courses with field experiences in local schools, and an intensive senior spring semester teaching internship. During the internship students teach high school classes in their respective disciplines under the supervision of an experienced teacher and a university professor.
Upon completion of the senior year spring semester internship, and the four-year Trinity College undergraduate degree, students may apply for licensure.

**Elementary School Teaching (A. B. or B. S. degree)**

Undergraduate students who plan to teach young children (kindergarten through grade six) may become eligible for licensure to teach while at Duke in addition to completing any academic major offered by Trinity College. The Elementary Teacher Preparation Program includes education courses with field experiences in diverse classroom settings and an intensive senior spring semester internship.

Interested undergraduate students may apply to the elementary program beginning in the sophomore year. Students are selected by competitive criteria for participation in the program. An intensive senior spring semester link together a teaching internship in a local public school, seminars, and independent directed research (four course credits). Students selected for the elementary teaching program are placed as interns with mentor teachers in an elementary school and are also supervised by a Duke professor.

Upon completion of the senior year spring semester internship and the four-year Trinity College undergraduate degree, students may apply for licensure.

**Master of Arts in Teaching (MAT) in Secondary Schools**

The Master of Arts in Teaching Program is designed for students who wish to teach their discipline in secondary schools by completing a graduate degree. The normal sequence for MAT coursework may begin in the spring semester of the senior year. Courses may not be double-counted toward both the bachelor's and MAT degrees. Additional information is available from the MAT office. This program is approved for teacher licensure by the State Board of Education in North Carolina and is reciprocal with most states.

**Electrical and Computer Engineering**

For courses in electrical and computer engineering, see “Pratt School of Engineering” on page 648.

**Energy and the Environment**

Professor Klein and Professor Knight, Co-Directors

A certificate, but not a major, is available in this program.

The undergraduate certificate in Energy and the Environment is designed to provide Duke undergraduates with an understanding of the breadth of issues that confront our society in its need for clean, affordable, and reliable energy. An expertise in energy will expand the students’ career options in the private, non-profit, government, and academic sectors. In addition to integrative core and capstone courses, the certificate will expose students to the three key disciplines in the study of energy and the environment: markets and policy; environmental impacts and resources; and energy technology. The goal of the certificate is to develop innovative thinkers and leaders who understand the energy system as a whole and the important interconnections among policy, markets, technology, and the environment.

Beyond traditional coursework, the certificate in Energy and the Environment will offer a variety of activities intended to provide students with a real-world perspective and hands-on experiences. These include field trips, guest speakers such as visiting executives and practitioners, research opportunities, and internships. Additional information may be obtained from the Undergraduate Programs Office for the Nicholas School.

**PROGRAM REQUIREMENTS**

The certificate requires a total of six courses, no more than three of which may originate in a single department. No more than two courses counted toward the certificate in Energy and the Environment may also satisfy the requirements of any major, minor, or other certificate program. AP credit may not fulfill certificate requirements.

Energy use is a multi-faceted problem that draws upon the perspectives and expertise of a variety of disciplines; the certificate in Energy and the Environment is therefore similarly interdisciplinary.

The certificate requires three integrative courses.

**Two introductory courses:**
Civil and Environmental Engineering 160L. Introduction to Environmental Engineering and Science
Earth and Ocean Sciences/Environment 330. Energy and the Environment

**One Capstone Project Course**
Environment 452L/Engineering 424L. Energy and Environment Design

In this course, teams of students explore the feasibility of a new or modified energy resources or technology. Three elective courses are also required, with one from each area (Markets and Policy, Environment, and Energy Technology) taken from the below list. The most up-to-date version of this list can be found on the program’s Web site: [http://www.nicholas.duke.edu/programs/undergrad/undergraduate-certificate-in-energy-and-environment](http://www.nicholas.duke.edu/programs/undergrad/undergraduate-certificate-in-energy-and-environment)

**ELECTIVES (one from each area)**

**Markets And Policy**
**Economics**
- 439. Economics of the Environment
**Environment**
- 212. United States Environmental Policy
- 363. Economics of the Environment
- 580A. Green Futures: Exploring Environmental, Economic, and Social Sustainability

**International Comparative Studies**
- 521S. International Environmental Regimes

**Political Science**
- 545S. International Environmental Regimes

**Public Policy Studies**
- 275. United States Environmental Policy
- 581S. International Environmental Regimes

**Environment**
**Chemistry**
- 91. Chemistry, Technology, and Society

**Civil and Environmental Engineering**
- 461L. Chemical Principles in Environmental Engineering
- 462L. Biological Principles in Environmental Engineering

**Earth and Ocean Sciences**
- 102. Introduction to Environmental Sciences and Policy
- 239. Atmospheric Chemistry: From Air Pollution to Climate Change
- 355. Global Warming
- 355. Global Warming
- 360. Environmental Chemistry and Toxicology

**Energy Technology**

**Environment**
- 631. Energy Technology and Impact on the Environment

**Mechanical Engineering**
- 461. Energy Engineering and the Environment

**Engineering**
For courses in engineering, see “Pratt School of Engineering” on page 648.

**English (ENGLISH)**
Professor Tennenhouse, Chair; Professor Ferraro, Director of Undergraduate Studies; Professors Aers, Aravamudan, Armstrong, Baucom, Beckwith, Clum, Davidson, Ferraro, Holloway, Khanna, Maten, MacKey, Moi, Pfau, Pope, Porter, Quilligan, Strandberg, Tennenhouse, Torgovnick, and Wald; Associate Professors Harris, Holland, Mitchell, Moses, Psomiades, Somerset, Sussman, Tetel, Wallace, and Willis; Assistant Professors Baran, and Metzger; Professor of the Practice Donahue and Hijuelos; Associate Professor of the Practice Malouf; Assistant Professor of the Practice Hillard and Vadde; Lecturers Askounis, Carlson-Hijuelos; Senior Lecturing Fellow Gopen

*Engineering* 287
A major or a minor is available in this department.

20. **Literature and Composition.** Credit for Advanced Placement on the basis of the College Board examination in literature and composition. One course.

22. **Composition and Language.** Credit for Advanced Placement on the basis of the College Board examination in composition and language. One course.

89S. **First-Year Seminar on Literature.** ALP Topics vary each semester offered. Prior to the drop/add period, this course is restricted to first-year students who have not fulfilled their seminar requirement. Instructor: Staff. One course.

90S. **Special Topics in Literature.** ALP, W Topics vary by semester; emphasis on development of writing skills. Instructor: Staff. One course.

110S. **Introduction to Creative Writing.** ALP, W Instructor: Staff. One course.

111S. **Documentary Writing: Creative Nonfiction Through Fieldwork.** ALP, R, W One course. C-L: see Documentary Studies 111S; also C-L: Policy Journalism and Media Studies


171. **Representative American Writers.** ALP, W Continuation of English 161. Selections and complete works. James, Frost or Robinson, Crane or Dreiser, O'Neill, Faulkner, Hemingway, and others. Instructor: Staff. One course.

180. **Introduction to Cultural Studies.** ALP One course. C-L: see Literature 150; also C-L: Visual and Media Studies 180, Arts of the Moving Image, Marxism and Society

181. **History and Concepts of Cinema.** ALP One course. C-L: see Arts of the Moving Image 201; also C-L: Theater Studies 278, Literature 110, Visual and Media Studies 289, Documentary Studies 264, Policy Journalism and Media Studies

182S. **Reading Historically.** ALP, W An introduction to the skills of critical reading through the study of representative writings selected from various historical periods, contextualized with the cultural and historical background of their times. Instructor: Staff. One course.

184S. **Readings in Genre.** ALP, W An introduction to the skills of critical reading and the vocabulary of critical analysis by close examination of poetry, fiction, and drama (or other media such as film) from a range of historical periods. Instructor: Staff. One course.

186S. **Reading Thematically.** ALP, W An introduction to the skills of critical reading through the close examination of representative literary works that deal with a common theme, problem, or concept. Instructor: Staff. One course.

190A. **Duke-Administered Study Abroad: Special Topics in English.** CCI Topics differ by section. Instructor: Staff. One course.

190FS-1. **Focus Program Seminar on Writing or Language.** Topics vary each semester offered. Instructor: Staff. One course.

190FS-2. **Focus Program Seminar on Literature.** ALP Topics vary each semester offered. Instructor: Staff. One course.

195FS. **Focus Program Seminar on Linguistics.** SS Topics vary each semester. Instructor: Staff. One course. C-L: Linguistics 195FS

196FSA. **Literature of the Sea.** ALP, W Travel narratives, poetry, novels, drama, epics, and film that take place at sea, or on island shores, as well as secondary literature that theorizes on physical, political, and philosophical possibilities in supra- and transnational spaces. Emphasis on the social, cultural, and political structures that function at sea, focusing on exile, imperial travel, the Middle Passage, cosmopolitan journeys,
shipwreck, and tourism. Material can include eco-criticism/fiction on Marine Lab travel sites: Singapore, Hawaii, Trinidad, Carolina islands. Given at Beaufort. Instructor: Staff. One course.

203S. Introduction to Theoretical Linguistics. R, SS Introduction to the theoretical issues that inform the study of linguistics and languages. Topics include: history of linguistics, development of meta-language and the integration of linguistic theory with the latest findings in neuroscience and evolutionary theory. Instructor: Staff. One course. C-L: Linguistics 203S

204. English Historical Linguistics. SS Introduction to methods and principles of historical linguistics, as exemplified by the history of the English language from Proto-Indo-European to the present. Not open to students who have taken English 208S. Satisfies the Criticism, Theory, and Methodology (CTM) for English majors. Instructor: Staff. One course. C-L: Linguistics 204

205. Introduction to Old English. ALP, CCI, CZ, R Introduction to the literature and culture of England before 1100 with focus on learning to read the written language of this period, beginning with short, simple prose texts and poems and arriving at more sophisticated literature. Satisfies the Area I requirement for English Majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 308


207. Middle English 1100-1500. ALP, CCI, W The principal forms and examples of English prose, poetry, and drama of the Anglo-Saxon and Middle English periods (excluding Chaucer). Satisfies Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 318

210S. Creative Non-Fiction: Writing for Publication. ALP, W Prerequisite: Writing 101. Instructor: Staff. One course.

211S. Digital Writing. ALP, W Theory and practice of emergent forms of writing in digital media; includes advanced instruction in writing for blogs, wikis, and other digital environments. Instructor: Harris or staff. One course.

212S. Creative Non-Fiction: Art of the Essay. ALP, W Prerequisite: Writing 101. Instructor: Staff. One course.

214S. Creative Non-Fiction: Stylistic Imitation. ALP, W Prerequisite: Writing 101. Instructor: Staff. One course.

216S. Creative Non-Fiction: Writing Humor. ALP, W Includes analysis of works of humorous writers from several centuries; study of various comic forms and techniques. Creation of original essays. Prerequisite: Writing 101. Instructor: Staff. One course.

218S. Creative Non-Fiction: Spiritual Autobiography. ALP, CZ, EI, W An exploration of narratives from diverse traditions and periods. Writers may include Augustine, Gandhi, Simone Weil, Thomas Merton, Malcolm X and others. Students maintain a daily journal, write weekly responses to readings, and embark on their own narratives. Prerequisite: Writing 101. Consent of instructor required. Instructor: Staff. One course.

219A. Science and Nature Writing: Naturalist Narratives, Classic to Contemporary. ALP, STS, W One course. C-L: see Environment 219A; also C-L: Marine Sciences, Marine Science and Conservation

219S. Scientific Writing. ALP, W Prerequisite: Writing 101. Instructor: Staff. One course.

220S. Writing: Poetry. ALP, W Instruction in the writing and study of poetry. Recommended for students before they take English 320S or 420S. Instructor: Staff. One course.

221S. Writing the Movie. Introduction to the theory and practice of writing for the screen. ALP, W One course. C-L: Arts of the Moving Image 306S

224S. Introduction to Writing Short Stories. ALP, W Intensive writing of the short story, with students completing a minimal of thirty pages of finished and presumably publishable fiction. Discussion of students' manuscripts and individual conferences with the instructor, taking into consideration questions of the aesthetics, ethics, and morality of fiction, as well as procedures for its publication. Instructor: Staff. One course.

226S. Dramatic Writing. ALP, W One course. C-L: see Theater Studies 280S; also C-L: Arts of the Moving Image

227S. Transforming Fiction for Stage and Screen. ALP, W One course. C-L: see Theater Studies 282S; also C-L: Arts of the Moving Image 302S

231. Medieval English Literature to 1500. ALP, CCI, R The principal forms and examples of English prose, poetry, and drama of the Anglo-Saxon and Middle English periods (excluding Chaucer). Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 317

233. Sixteenth-Century English Literature. ALP May include such authors as Wyatt, More, Sidney, Spenser, Raleigh, Marlowe, and Shakespeare. Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 326


238. Seventeenth-Century English Literature. ALP May include work by such authors as Jonson, Donne, Tourneur, Webster, Ford, Bacon, Burton, Browne, and Milton. Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 328

243. Eighteenth-Century English Literature. ALP Major genres and authors such as Dryden, Congreve, Addison, Swift, Pope, Gray, Johnson, Blake, and Defoe or Fielding. Satisfies Area II requirement for the English majors. Instructor: Staff. One course.


247. Victorian Literature. ALP Major works and genres of Victorian literature by such authors as the Brontes, Dickens, Hardy, Tennyson, Carlyle, Browning, Arnold, and Ruskin. Satisfies Area II requirement for English majors. Instructor: Staff. One course.

251. British Literature: 1900 to 1945. ALP Major genres and works by such authors as Yeats, Conrad, Shaw, Joyce, Lawrence, Woolf, Eliot, Auden, among others. Satisfies Area III requirement for English majors. Instructor: Staff. One course.

260. American Literature to 1820. ALP, CCI Works by authors of the colonial period and the early Republic. Satisfies Area II requirement for English majors. Instructors: Staff. One course.

266. African American Literature. ALP, CCI, R Oral and literary traditions from the American colonial period into the nineteenth century, including spiritual as lyric poetry and the slave narrative as autobiography. Not open to students who have taken the former English 167. Satisfies Area II requirement for the English major. Instructor: Staff. One course. C-L: African and African American Studies 223

269. Classics of American Lit, 1820-1860. ALP Prose and poetry by such authors as Emerson, Thoreau, Hawthorne, Poe, Melville, and Whitman. Satisfies the Area II requirement for English majors. Instructor: Staff. One course.

270. Classics of American Literature, 1860 to 1915. ALP, CCI, W Prose and poetry by such authors as Cather, Chesnutt, Chopin, Crane, Dickinson, DuBois, Freeman, Gilman, James, Jewett, Twain, Washington, Wharton. Satisfies Area III requirement for English majors. Instructor: C. Davidson, Jones, Wald, or Wallace. One course. C-L: Marxism and Society

275S. Asian American Literature. ALP, CCI, CZ Asian/ American Cultural production from the late nineteenth century read in the context of United States colonialism and Asia/ Pacific wars and resultant migrations. Film and hypertext, lyrics (from poetry to rap), drama, fiction and non-fiction. Not open to students who have taken this course as English 179ES. Satisfies Area III requirement for English majors. Instructor: Staff. One course.

276. African American Literature. ALP Continuation of English 164A. The late nineteenth century to contemporary writers. Not open to students who have taken the former English 168. Satisfies the Area III requirement for English majors. Instructor: Staff. One course.

277S. Studies in American Women Writers. ALP Major American women writers. Includes such areas as methods of interpretation, shaping of critical reputation, and impact of cultural movements on development of voice and literary approaches. Area requirements (Area I, II, and III) for English majors will be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

278S. Studies in Women's Fiction. ALP, CCI, R, W Readings cover a range of British and American writers from Bronte to Morrison. Focus is on dominant narratives and counter-narratives reflecting differing cultural constructions of gender, class, race, and sexuality in the novels, as well as evolving ideas of female authorship and their relation to the traditional western canon. Area requirements (Area I, II, III) for English majors will be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

284S. Poetry, Medicine, and Healing Arts. ALP, EI, R The multiple historical and contemporary relationships between the expressive and the healing arts, from representations of the body, to the power of poetry to console, its role in mediating personal and cultural trauma, the neuroscience of emotions, and the growing use of poetry in medical curricula for diagnosis, empathy and ethics training, and developing coping skills for healers and healed alike. Satisfies Area III for the English major. Instructor: Staff. One course.

285. Secularization and Modernity: Cross-Disciplinary Readings 1750-1914. ALP, CCI, CZ, EI, R An exploration of the concept of secularization as the key-concept driving European modernity, with focus on the period from the Enlightenment to the early 20th century; readings to be selected from literary, sociological, philosophical, political, and theological writings; authors may include some of the following: Hume, Rousseau, Kant, Blake, Goethe, Coleridge, Kierkegaard, J. H. Newman, Flaubert, G. Eliot, Dostoevsky, Nietzsche, M. Weber, Durkheim. Original research projects to explore with primary and secondary materials. Instructor: Pfau. One course. C-L: Sociology 348, Political Science 374, German 376, Romance Studies 360, Literature 243, Ethics Courses Offered Through Other Departments

286. The Melancholy of Art: Passages of Time in European Literature and Cinema, 1819-2000. ALP, CCI Nineteenth and early twentieth-century fiction, philosophy, and film as these formalize the psychological effects of historical change. This course satisfies the Area II requirement for English majors. Instructor: staff. One course. C-L: German 377

290-3. Special Topics in English Literature, 1945 to the present. ALP Majors authors, topics, or themes in Literature written in English since 1945. Satisfies the Area III requirement for English majors. Instructor: Staff. One course.


290AS-2. Topics in Nineteenth-Century British Literature. ALP Taught in the Oxford Summer Program. Satisfies the Area II or III requirement for English major. To be determined by the Director of Undergraduate Studies in English. Instructor: Staff. Two courses.

290FS. Special Focus Topics in Writing. ALP Topics vary each semester offered. Open only to students in the Focus program. Instructor: Staff. One course.
290S-1. Special Topics in Medieval English Literature to 1500. ALP A major author, topic, or theme of the Anglo-Saxon and Middle English periods (excluding Chaucer). Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 290S-1


290S-3. Special Topics in English Literature: 1900 to present. ALP A major author, topic, or theme of twentieth-century to present English Literature. Satisfies Area III for English majors. Instructor: Staff. One course.

290S-4. Special Topics in Creative Writing. ALP, W Topics vary each semester. Instructor: Staff. One course.

310A. Making Media. ALP, STS Duke in New York. The changes experienced by print and visual media (book publishing, magazines, newspapers, TV, films, theatre, advertising) in the twenty-first century in how art and business can, and often must, be done and in how they interact with society. Examinations through readings (including selected case histories) and guest speakers of how technology and technological change affect art and society today. Satisfies Area III requirement for English majors. Instructor: Staff. One course. C-L: Policy Journalism and Media


313A. Internship in New York. Immersion in the professional art world through apprenticeship to a sponsoring artist or organization. Students spend fifteen hours per week at the internship and write a substantive paper containing significant analysis and interpretation of the relation of the students' sponsoring institution to the art form of activity as a whole, the system of production and consumption surrounding that art form or activity, and the sponsor's organizational framework, operating mechanics, and role in the creation, preservation, or interpretation of the art form or activity. Open only to students admitted to the Duke in New York Arts Program. Does not count toward the major. Consent of instructor required. Instructor: Staff. One course. C-L: Theater Studies 214A

313A-1. Internship in New York. Immersion in the professional world of the arts and media through working with a sponsoring artist, organization, or business. Open only to students admitted to the Duke in New York Arts and Media Program. Does not count toward the major. Consent of Instructor required. Instructor: Staff. C-L: Theater Studies 214A-1

314A. The Business of City Life. A half-credit course to help place your internship in the business of city life. Saturday tours of city neighborhoods (Chinatown, Harlem, Lincoln Square, Central Park) that have been visibly and dramatically impacted by developments in the city's economic life and in cultural or public policy, with coordinated readings, lectures, and discussion. Topics to include global Chinese identity in Chinatown; gentrification in Harlem; non-profits and conservancies in Lincoln Square/Central Park, Disney in Times Square and Hell's Kitchen. Coordinated cultural events scheduled during evening hours. Open only to students in the Duke in New York: Summer Internships in the City program. Instructor: Torgovnick. Half course. C-L: Theater Studies 215A

316AS. Arts Management, Media, Publishing, and Cultural Policy in Durham and Research Triangle. ALP, R Arts, media, publication, and other cultural venues in Durham and their interaction with the Research Triangle Park area more widely. Comparisons to New York and to European models. Readings such as Cultural Master Plan for Durham, Downtown Development Plan, Cultural Policy (Core Cultural Theorists series), and
Selections from Critical Cultural Policy Studies: A Reader; guest speakers from the Durham area on campus; a few, selected site visits. Instructor: Torgovnick or Staff. One course.

317S. Screenwriting. ALP, W One course. C-L: see Theater Studies 273S; also C-L: Arts of the Moving Image 305S

320S. Advanced Writing of Poetry. ALP, W Meter, image, tone, and dramatic organization in traditional and modern poems as a basis for original composition. Recommended for, but not limited to, students who have taken English 100C. Instructor: Staff. One course.

326S. Advanced Dramatic Writing. ALP, W One course. C-L: see Theater Studies 480S; also C-L: Arts of the Moving Image

332S. Chaucer I. ALP, CCI, R The first two-thirds of his career, especially Troilus and Criseyde. Satisfies Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 320S


337. Shakespeare After 1600. ALP, EI, R Examination of ten plays by Shakespeare written after 1600. Not open to students who have taken Theater Studies 239A. Satisfies Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 332


345. Nineteenth-Century British Novel. ALP Novels by such authors as Scott, Austen, Dickens, Thackeray, Trollope, the Bronte's, George Eliot, Meredith, Collins, Hardy, and others. Satisfies Area II requirement for English majors. Instructor: Staff. One course.

346. Victorian Poetry. ALP Works by such poets as Tennyson, Browning, Barrett, Browning, Arnold, the Rossettis, Swinburn, Morris, and others. Satisfies Area II requirement for English majors. Instructor: Staff. One course.

358. Postcolonial Novel. ALP, CCI Comparative study of representative contemporary fiction from Africa, India, the Middle East, Australia, New Zealand, Latin American, and the Caribbean. All readings in English. Satisfies the Area III requirement for English majors. Instructor: Staff. One course. C-L: International Comparative Studies 218

360. American Literature before the Civil War. ALP Authors, topics, themes of nineteenth-century America. Satisfies Area II for English majors. Instructor: Staff. One course.

360S. Studies in American Literature Before the Civil War. ALP Seminar version of English 360. Topics may vary by semester; may be repeated with permission of DUS. Instructor: Staff. One course.

369. American Literature, Civil War to First World War. ALP Authors, topics, and themes from Reconstruction to American Modernism. Satisfies Area III requirement for English majors. Instructor: Staff. One course.
370. Studies in American Literature 1860-1945. ALP This is a lecture version of English 370S. Instructor: Staff. One course.


371. American Literature, World War I to World War II. ALP Major authors, topics and themes of the middle 20th century. Satisfies Area III for the English major. Instructor: Staff. One course.


373. American Literature, Cold War and After. ALP American authors, topics and themes of the late twentieth and early twenty-first centuries. Satisfies Area III requirement for English majors. Instructor: Staff. One course.

373S. Studies in American Literature, Cold War and After. ALP This is a seminar version of English 373. Instructor: Staff. One course.


375S. Popular Fictions. ALP One course. C-L: see Literature 345S; also C-L: Women's Studies 252S

376. Types of Recent Fiction. ALP One course. C-L: see Literature 347D


382. American Film Comedy. ALP One course. C-L: see Arts of the Moving Image 211; also C-L: Literature 221, Visual and Media Studies 268

383A. Theater in London: Text. ALP One course. C-L: see Theater Studies 239A

383AS. Theater in London: Text. ALP, CCI One course. C-L: see Theater Studies 239AS

384A. Theater in London: Performance. ALP One course. C-L: see Theater Studies 240A

384AS. Theater in London: Performance. ALP, CCI One course. C-L: see Theater Studies 240AS

386. Science Fiction Film. ALP, CCI, EI, STS Science fiction film from the 1950s to the present. From talking apes to mind control, forbidden planets to genetic dystopias, alien invasions to travel in time and space, an exploration of classic films in the genre with attention to how the films imagine the relationships among science, politics, and society over time. Attention to visual as well as literary storytelling. Instructor: Staff. One course. C-L: Art History 238


390-1. Single American Author. ALP Area requirements for the English major (Area I, II, or III) to be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

390S-1. Special Topics in a Single American Author. ALP Seminar version of 390-1. Area requirements (Area I, II, or III) for English majors will be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.
390-2. Special Topics in a Single British Author. ALP Studies in a single British author. Area requirements for English majors (Area I, II, or III) will be determined by the Dir. of Undergraduate when taught. Instructor: Staff. One course.

390S-2. Special Topics in a Single British Author. ALP Studies in a single British author. Area requirements for English majors (Areas I, II, or III) determined by the Director of Undergraduate Studies. Instructor: Staff. One course.


390-5. Special Topics in Genre. ALP Area 1, 2, 3, or elective, to be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.


390S-6. Special Topics in Film. ALP A major genre, period, or director. Satisfies the Area III requirement for English majors. Instructor: Staff. One course. C-L: Arts of the Moving Image

390S-7. Special Topics in Language and Literature. ALP Area requirements for majors to be determined by the Director of Undergraduate Studies in English. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in English. CCI Topics differ by section. Instructor: Staff. One course.

391A. Duke in New York Arts and Media Independent Stud. Individual non-research directed study on a previously approved topic, under the supervision of a Duke faculty member, resulting in a substantive paper containing significant analysis and interpretation. Open only to students in the Duke in New York Arts and Media Program. Consent of Instructor required. Instructor: Staff. One course. C-L: Policy Journalism and Media

395. Language and Society. CCI, SS Course examines language as a social practice, focusing on different aspects of its role in social life. Topics addressed include: language and social identity, such as ethnicity, social class, age, and gender; variation in language, including dialects, accents, and registers; multilingualism and language contact; new languages such as pidgins and creoles; language, culture, and intercultural communication; language and ideology; language in education and in the media. Through the discussion of these topics and homework including reading and small research projects, students are introduced to key concepts, theories, and methods in sociolinguistics and linguistic anthropology. Instructor: staff. One course. C-L: Linguistics 451, Slavic and Eurasian Studies 385, Cultural Anthropology 212

396S. Language in Immigrant America. ALP, CCI, R Discussion of issues of language in the context of immigration in the United States, from the turn of the 20th century until the present, combining approaches from literature, memoirs, language policy, media studies, and linguistic anthropology. Some fieldwork in an immigrant community. Topics include: identity, assimilation, race, bilingual communities, bilingual education, foreign accents, language contact. Instructor: Staff. One course. C-L: Cultural Anthropology 397S, Linguistics 396S, Slavic and Eurasian Studies 396S

420S. The Writing of Poetry. ALP, W See English 320S. Recommended for, but not limited to, students who have taken English 100C. Instructor: Staff. One course.

424S. Advanced Writing: Short Stories. ALP, W See English 224S. Recommended for, but not limited to, students who have taken English 100A. Instructor: Staff. One course.
425S. Advanced Narrative Writing. ALP, W
Seminar for students with some prior experience writing narrative fiction. Thirty pages minimum of finished publishable narrative fiction, distributed in three installments for intensive class discussion. Instructor: Staff. One course.

433. Women Writers of the Renaissance: Spain and England. ALP, CCI, CZ
One course. C-L: see Spanish 481D; also C-L: Medieval and Renaissance Studies 475D

480S. Studies in the History of Theory. ALP
Studies in the history of theory of aesthetics, literary criticism, philosophy of language, Marxist Criticism, and others with a primary focus on materials prior to 1950. Satisfies the criticism, theory, methodology (CTM) requirement for English majors. Instructor: Staff. One course.

482S. Studies in Contemporary Theory. ALP
Topics included: psychoanalysis, Marxism, Structuralism, Post-Structuralism, theory of film and the image; theory of race, gender, sexuality, with a concentration on materials since 1950. Satisfies the criticism, theory, methodology (CTM) for English majors. Instructor: Staff. One course.

485S. Ordinary Language Philosophy. ALP
One course. C-L: see Literature 486S; also C-L: Philosophy 486S

488S. Feminist Classics. ALP, CCI
One course. C-L: see Literature 465S; also C-L: Philosophy 274S, Women's Studies 465S

490. Special Topics in Language and Literature. ALP
Area requirements (Area I, II, III) to be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

490-1. Current Topics in Linguistics. R, SS
Instructor: Staff. One course.

490-7. Special Topics in Literature and the Other Arts. ALP
Selected topics in the study of the interrelation of literature and other art forms. Area requirements (Area I, II, III) for English majors will be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

490S-1. Special Topics in Linguistics. CCI, R, SS
Instructor: Staff. One course.

490S-2. Special topics in African American Literary Studies. ALP, CCI
Topics may change each semester. Satisfies Area II or III requirement for English majors. To be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

490S-9. Selected Topics in Feminist Studies. ALP
Satisfies the Area III requirement for English majors. Instructor: Staff. One course.

490S-10. Special Topics in Criticism, Theory, or Methodology. ALP
Satisfies the Criticism, Theory, or Methodology (CTM) for English majors. Instructor: Staff. One course.

490T. Tutorial (Area I, II, or III as determined by instructor).
Tutorials under the supervision of a faculty member for two or more students working on related independent projects. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

491. Independent Study. Individual non-research creative writing project directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Open to juniors and seniors. Consent of both the instructor and the director of undergraduate studies required. Instructor: Staff. One course.

493. Research Independent Study. R
Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to juniors and seniors. Consent of both the instructor and the director of undergraduate studies required. Instructor: Staff. One course.

495. Distinction Creative Writing Independent Study. Open to those whose thesis will be in the field of creative writing. Application and consent of the Director of Undergraduate Studies. Instructor: Staff. One course.
496. Distinction Creative Writing Independent Study. Open to those whose thesis will be in the field of creative writing. Application and consent of the Director of Undergraduate Studies. Instructor: Staff. One course.

497. Distinction Critical Research Independent Study. Open to those whose thesis will be a critical paper or piece of other research (for example, in linguistics). Application and consent of the Director of Undergraduate Studies. Instructor: Staff. One course.

498. Distinction Critical Research Independent Study. Open to those whose thesis will be a critical paper or piece of other research (for example, in linguistics). Application and consent of the Director of Undergraduate Studies. Instructor: Staff. One course.

505. Introduction to Old English. ALP An introduction to the language of the Anglo-Saxon period (700-1100), with readings in representative prose and poetry. Not open to students who have taken 113A or the equivalent. Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 605

520S. Writing Poetry: Formal and Dramatic Approaches. ALP, W A workshop comparing meter, stanza, and rhyme with free verse, to illuminate the freedom and form of all poetry. Narrative and conceptual content considered within the poem's emotive, musical dynamic. Group discussion of technique, personal aesthetic and creative process; revisions of poems. Instructor: Pope. One course.


530S. Special Topics is Middle English Literature: 1100 to 1500. ALP, CCI, R Selected topics. Satisfies Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 690S-1

532S. Chaucer and His Contexts. ALP, CCI, R The first two-thirds of his career, especially Troilus and Criseyde. Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 625S

536S. Shakespeare: Special Topics. ALP, R Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 630S

538S. Special Topics in Renaissance Prose and Poetry: 1500 to 1660. ALP, R Selected topics. Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 632S

539S. Special Topics in Seventeenth-Century Literature. ALP, R Topics vary by semester. Satisfies the Area I requirement for English majors. Instructor: Staff. One course.

540. Special Topics in Restoration and Eighteenth-Century Literature. ALP Satisfies the Area II requirement for English majors. Instructor: Staff. One course.

540S. Special Topics in Restoration and Eighteenth-Century Literature. ALP Seminar version of English 540. Instructor: Staff. One course.

545S. Romantic Literature: 1790 to 1830. ALP Selected topics. Satisfies the Area II requirement for English majors. Instructor: Staff. One course.

546. Special Topics in Victorian Literature. ALP Selected topics. Satisfies the Area II requirement for English majors. Instructor: Staff. One course.

546S. Special Topics in Victorian Literature. ALP, R, W Satisfies the Area II requirement for English majors. Instructor: Staff. One course.

550S. British Literature since 1900. ALP Selected topics. Satisfies the Area III requirement for English majors. Instructor: Staff. One course.
560. American Literature to 1820 (Selected Topics). ALP Selected Topics. Satisfies the Area II requirement for English majors. Instructor: Staff. One course.

580S. Music in Literature and Philosophy. ALP, CCI, R One course. C-L: see German 580S; also C-L: International Comparative Studies 527S

582S. Wittgensteinian Perspectives on Literary Theory. ALP One course. C-L: see Literature 681S

583. Theater in London: Text. One course. C-L: see Theater Studies 520A

584. Theater in London: Performance. One course. C-L: see Theater Studies 540A

590-1. Special Topics I. ALP Subjects, areas or themes that cut across historical eras, several national literatures, or genres, medieval to early modern periods. Satisfies the Area I requirement for English majors. Instructor: Staff. One course.

590S-1. Special Topics Seminar I. ALP Subjects, areas or themes that cut across historical eras, several national literatures, or genres, medieval and early modern period. Satisfies Area I requirement for English majors. Instructor: Staff. One course.

590-2. Special Topics II. ALP Subjects, areas or themes that cut across historical eras, several national literatures, or genres, eighteenth and nineteenth centuries. Satisfies Area II requirement for English majors. Instructor: Staff. One course.

590S-2. Special Topics Seminar II. ALP Subjects, areas or themes that cut across historical eras, several national literatures, or genres. Satisfies Area II requirement for English majors. Topics course. Instructor: Staff. One course.

590-3. Special Topics III. ALP Subjects, areas or themes that cut across historical eras, several national literatures, or genres, 1860-Present. Satisfies Area III requirement for English majors. Instructor: Staff. One course.

590S-3. Special Topics Seminar III. ALP Subjects, areas or themes that cut across historical eras, several national literatures, or genres, 1860 to the present. Satisfies the Area III requirement for English majors. Instructor: Staff. One course.

590-4. Special Topics in Criticism. ALP Satisfies the Criticism, Methodology, Theory (CTM) requirement for English majors. Instructor: Staff. One course.

590S-4. Special Topics Seminar in Criticism, Theory, or Methodology. ALP Seminar Version of 288. Satisfies the Criticism, Theory, or Methodology (CTM) for English majors. Instructor: Staff. One course.

590-5. Selected Topics in Feminist Studies. ALP Selected Topics in Feminist Studies. Satisfies English Area or Criticism and Methodology requirements for the English major as determined by Director of Undergraduate Studies. Instructor: Staff. One course.

THE MAJOR

The English major is designed to convey to students a broad knowledge of English, American, and Anglophone literature, a sophisticated habit of critically engaging literary and cultural texts, a shared understanding of major problems, trends, and methods of literary and cultural analysis, and the ability to pose questions and organize knowledge in productive and original ways. While offering students clear direction on how to profit most from their study within the English department, the major also seeks to encourage students to assume an enduring habit of questioning and intellectual self-articulation. Each of the four areas of requirement for completion of the major thus invites students, in consultation with their advisor, to devise a coherent, challenging, and intellectually distinctive plan of study.

Requirements:

Ten courses, nine of which must be at the 200 level or above. Required courses include one gateway course, four "area study" courses, one criticism, theory, or methodology course, and four electives, as follows:
**Gateway Course.** Students must select one of the following three courses, and complete it by or before the end of the junior year:

- English 184S. Readings in Genre
- English 182S. Reading Historically
- English 186S. Reading Thematically

Each student must take at least nine additional courses at the 200 level or above. Five of these courses must satisfy the following requirements:

**A.) Diversified Study**

Students must select at least two courses in the Medieval and Early Modern area (Area I), at least one in the Eighteenth and Nineteenth Centuries area (Area II), and at least one course in the Modern to Contemporary area (Area III), as outlined below. Courses must be chosen from more than one national literature. Courses that appear in more than one area of study may only count for one designated area as determined by instructor.

- Area I (Medieval and Early Modern); 2 courses required
- Area II (Eighteenth and Nineteenth Centuries); 1 course required
- Area III (Modern to Contemporary); 1 course required

**B.) Criticism, Theory, Methodology**

Students must select one course on criticism, theory, or methodology. The following courses satisfy this requirement: English 396, English 204, English 480S, English 482S, English 490S-10. In addition, other English courses designated as CTM will satisfy this requirement.

*Recommendations:* Students planning to enter graduate study in an English department should take additional courses from the early as well as later and modern periods. If eligible, they should also apply for the Distinction Program. Aspiring graduate students should consult their advisor.

**THE MINOR**

*Requirements.* Five courses at or above the 200 level; or English 184S, 182S, or 186S plus four courses at or above the 200 level. One of the 200-level courses must be a designated seminar. Only one of the five courses may be taken at an institution other than Duke. Advanced Placement credits and courses taken on a satisfactory/unsatisfactory grading basis may not be used.

**Foreign Languages**

The department recommends that students majoring in English complete at least two years of college-level study, or the equivalent, of a foreign language. Students contemplating graduate work in English should note that many master's programs require examination in one foreign language and that doctoral programs commonly require examination in two. Students interested in linguistics are strongly urged to study at least one non-Indo-European language.

**Teacher Certification**

Each year a number of Duke English majors earn certificates as secondary school teachers. While licensed by the state of North Carolina, these majors are essentially certified for other states as well. Also, such training is urged for those who consider teaching in independent schools, since most private or parochial schools would prefer candidates who have earned teaching certificates.

Such certification may be gained as part of the English major and is not as time-consuming as is sometimes believed. Candidates should have a solid background in both American and British literature; also helpful are courses in composition and cultural studies. Among the requirements are one course in linguistics (English 396S, 204, 206, or 395), an appropriate course in psychology, and several courses in education.

The last semester of the senior year is devoted to the student-teaching block, including two special, accelerated courses and ten weeks of full-time teaching and observation in the schools, working with a mentor-teacher and with Duke faculty. This experience leads to an English-teaching certificate to accompany the bachelor's degree.
Anyone considering secondary school English teaching should confer with the director of secondary school teacher preparation in the Program in Education as soon as possible.

**Departmental Graduation with Distinction**

The English department offers its majors two options to earn distinction: the Critical Thesis option or the Creative Writing Thesis option.

**Structure.** Either two Independent Studies or a "home seminar" and one Independent Study. (This may be Fall/Spring or Spring/Fall). Under most circumstances, a completed length of 35-70 pages.

**Course Work.** The distinction courses count toward the major. Students must complete 11 total courses to graduate with distinction in the major instead of the standard 10.

**Application.** To apply students must have completed, by the beginning of the senior year, at least five 200-level or above English courses and must have a GPA of at least 3.5 in English courses.

Students submit an application that includes a writing sample of about 10 pages from an English course, one letter of recommendation from an English faculty member, and a project description and basic bibliography (one page single spaced). Applications must be submitted to the Director of Undergraduate Studies. Applications are due November 15 for a spring-to-fall option and March 15 for a fall-to-spring option.

**Evaluation procedure.** Upon approval by the instructor, the completed thesis is submitted to the Director of Undergraduate Studies by December 1 (for a spring-to-fall project) or March 31 (for a fall-to-spring project) of the senior year for evaluation by the Director of Undergraduate Studies, the thesis adviser, and one other faculty member. Please deliver three-spiral bound copies to Allen 303AA.

**Levels of distinction.** Three levels: Distinction, High Distinction, or Highest Distinction. Levels of distinction are based on the quality of the completed work. Students who have done satisfactory work in the seminar or independent study but whose thesis is denied distinction will simply receive graded credit for their seminars and/or independent studies. Whereas the standard major in English asks for a total of ten courses, students pursuing honors in English will take nine courses plus either two independent studies or a "home seminar" to be followed by an independent study.

**Environmental Sciences and Policy Program (ENVIRON)**

Professor Vidra, **Director of Undergraduate Studies**

Two majors are offered within the program, leading to either the Bachelor of Arts degree or the Bachelor of Science degree within Trinity College of Arts and Sciences. A minor in Environmental Sciences and Policy is also offered.

The majors are administered by the Nicholas School of the Environment. Courses for the majors are taught by Nicholas School faculty and Duke professors in cooperating departments and schools. The degrees are administered by undergraduate directors and advisory committees representing the various areas and cooperating departments. For additional information, consult the program Web site, at [http://www.nicholas.duke.edu/programs/undergrad/index.html](http://www.nicholas.duke.edu/programs/undergrad/index.html).

**ENVIRONMENTAL SCIENCES AND POLICY (A.B. DEGREE)**

The undergraduate major in environmental sciences and policy is offered within the Bachelor of Arts degree to students interested in the interdisciplinary study of environmental issues. The major permits students to combine studies in the natural sciences and engineering with courses in social sciences and humanities around general focus areas and themes. This major is designed for students with career objectives such as environmental law, policy, science, management, or planning that require in-depth understanding of environmental issues that cross disciplinary boundaries. The prerequisites for the A.B. degree stress a firm foundation in basic natural, environmental, and social science areas. An intermediate core course focuses on local, regional, and global case studies taught by interdisciplinary teams of faculty. Upper-level focused study courses are selected in consultation with advisors to match a specific environmental theme or career objective. The upper-level curriculum includes a course in probability and statistics, a policy course, and an independent
study, internship, or field experience. At least two courses in the upper-level curriculum must be selected from approved lists in each of the social sciences/humanities and sciences/engineering areas.

ENVIRONMENTAL SCIENCES (B.S. DEGREE)

The undergraduate major in environmental sciences is offered within the Bachelor of Science degree to students interested in a scientific perspective on environmental issues. The major is designed to encourage breadth in the physical and life sciences and depth in a chosen area of scientific concentration. This major is designed for students with career objectives in environmental sciences, industry or management that require a strong scientific background, or for students intending to pursue graduate degrees in environmental sciences. The major also merges well with pre-medical requirements. The prerequisites for the B.S. degree stress a firm foundation in the physical and life sciences and mathematics. The major requirements include five core courses selected from six course options that focus on the biosphere, the atmosphere, the hydrosphere, the solid earth, chemical cycling, and the interface between humans and the environment. The major also includes a course in probability and statistics. The Focused Study consists of three upper-level natural science, engineering or mathematics courses proposed by the student in consultation with their advisor to form a concentration area.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

102. Introduction to Environmental Sciences and Policy. NS, STS An introduction to the study of environmental sciences and policy through exploration of basic environmental principles in the life, physical, and social sciences. Emphasis on understanding how the atmosphere, hydrosphere, lithosphere, cryosphere, and biosphere function, and how these spheres interact with human consumption, production, and technological patterns and processes. Field trips to a local site as well as the Duke University Marine Laboratory. Instructors: Christensen or Meyer. One course. C-L: Marine Science and Conservation, Energy and the Environment

153. Ecosystem Health and Human Well-Being. NS, STS One course. C-L: see Biology 153; also C-L: Global Health

190A. Duke-Administered Study Abroad: Special Topics in Environmental Sciences and Policy. Topics differ by section. Instructor: Staff. One course.

190FS. Topics in Environment. Topics vary semester to semester. Only open to students in the Focus Program. Consent of Instructor required. Instructor: Staff. One course.

201. Integrating Environmental Sciences and Policy. NS, SS, STS, W Interaction between the natural and the social systems as they relate to the environment. Focus on ecological and earth system cycles, processes, and fundamental relationships. The environmental impact of human-induced change at the local, regional, and global levels. The role of technology and the policy process in determining how environmental problems evolve and are addressed. Use of ethical analysis to evaluate environmental tradeoffs. Use of case studies to integrate multiple disciplinary perspectives on environmental problems and to address issues of environmental justice. Not open to first year students. Prerequisite: Environment 102 or consent of instructor. Instructor: Clark. One course. C-L: Marine Science and Conservation

205. Marine Megafauna. NS, STS One course. C-L: see Biology 205; also C-L: Marine Sciences, Marine Science and Conservation

209. Food, Farming, and Feminism. CCI, EI, SS One course. C-L: see Women's Studies 275

209S. Food, Farming, and Feminism. CCI, EI, SS One course. C-L: see Women's Studies 275S

210D. Conserving the Variety of Life on Earth. NS, SS An overview of biological diversity, its patterns, and the current extinction crisis. Historical and theoretical foundations of conservation, from human values and law to criteria and frameworks for setting conservation priorities; island biogeography theory, landscape ecology, and socioeconomic considerations in reserve design; management of endangered species in the wild and in captivity; managing protected areas for long term viability of populations; the role of the landscape matrix around protected areas; and techniques for conserving biological diversity in semi-wild productive ecosystems such as forests. Instructor: Pimm. One course.
212. United States Environmental Policy. EI, SS, STS, W An overview of the major environmental legislation in the United States. Topics include: air and water pollution, hazardous waste, agriculture, wildlife, and institutions. Political, economic, ethical, and scientific analysis. Open to juniors or seniors or by consent of instructor. Instructor: Bennear, Gallagher, or Staff. One course. C-L: Public Policy Studies 275, Energy and the Environment

213LS. Aquatic Field Ecology. NS, R, W One course. C-L: see Biology 362LS

214S. Ethical Challenges in Environmental Conservation. EI, SS, W Ethical challenges in environmental conservation. Topics include the philosophical basis and challenges of mankind's responsibility to the natural world; prioritization of often conflicting conservation efforts; balancing the needs of humans and the environment; the disputed role of scientists as advocates; and the philosophical and political obstacles to conservation efforts. Case studies on local and global issues, especially on the intersection of science and policy. Instructor: Vidra. One course. C-L: Marine Science and Conservation

216S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding. CCI, EI, SS, W Environmental and natural resources as a source of conflict and/or peacebuilding between and within nations and states. Analysis of the role of the environment in the conflict cycle and international security. Topics include refugees, climate change, water, and infectious disease. Particular focus on post-conflict and rebuilding in war-torn societies. Examination of the role of international organizations, non-governmental organizations, and emerging standards for environmental management. Examples drawn from conflicts such as Rwanda, Israel/Palestine, Nepal, Sierra Leone and others. Instructor: Weinthal. One course. C-L: Public Policy Studies 279S, Political Science 367S, Islamic Studies, Marine Science and Conservation

217. Restoration Ecology: Theory and Applications. EI, NS, STS Addresses fundamental principles of ecological restoration. Includes an overview of the discipline, scientific, ethical and philosophical underpinnings, and the legislative framework that guides much of the restoration work in the United States. Principles of ecosystem ecology introduced to provide an understanding of ecosystem processes across landscapes and within specific restoration sites. Students will conduct a comparative study of a restoration site with a reference site and work in small groups to create a monitoring report for this site. Prerequisite: introductory biology or environmental science, or consent of instructor. Instructor: Vidra. One course.

218. Food and Energy: Applying research and theory to local dining practice. R, SS Examination of link between food and energy, both in science and culture. Includes food production, processing, transportation, consumption, and food security. Project groups will design and complete on-campus research and/or evaluation projects around dining at Duke. Application of basic qualitative research methods, including participant observation, personal interview, and content analysis. Instructor: Clark. One course. C-L: Sociology 372

219A. Science and Nature Writing: Naturalist Narratives, Classic to Contemporary. ALP, STS, W Introspective and expository prose is effective in transferring concepts and information from scientists to other segments of society. Students will explore nonfiction writing about marine ecosystems as the basis for discussion and analysis. They will experiment with essays that convey information about the natural world and that target specific audiences (e.g., children, general public, business executives, the blogosphere, etc.) and specific goals. Exercises will stress practice in crafting essays that convey scientific information with a nature writer’s eloquence. Particular emphasis will be placed on editing and revision toward publication-quality manuscripts. (Given at Beaufort.). Instructor: Van Dover. One course. C-L: English 219A, Marine Sciences, Marine Science and Conservation

221. Environment as Community. SS One course. C-L: see Sociology 215

222S. Environmental Conservation and Documentary Photography. ALP, EI, R Technical and aesthetic training in creating documentaries to communicate critical environmental issues so as to affect societal change. History of the essential role of documentary photography in land conservation, social justice, and protection of biodiversity from the early 1800's to today leads into individual documentary projects. Taught at the Center

226S. Field Methods in Earth and Environmental Sciences. NS, R, W One course. C-L: see Earth and Ocean Sciences 226S

228. Food and Fuel for a Growing Population: Nuts and Bolts of Plant Growth and Production. NS, STS One course. C-L: see Biology 228

239. Atmospheric Chemistry: From Air Pollution to Climate Change. NS, STS Integrated scientific background for the impact of humans on the natural environment. Topics covered include greenhouse gases and climate, local and regional ozone pollution, long-range pollution transport, acid rain, atmospheric particulate matter pollution, and stratospheric ozone depletion. Pre-requisites: Chemistry 101DL. One course. C-L: Energy and the Environment

240LS. Introductory Field Methods in Biodiversity. NS, R Biodiversity is altered by global and local environmental change. How do we assess this ecological impact? This field course introduces ecological concepts using basic field methods to investigate species interactions in our local environment. Introduction to techniques for mapping and monitoring plants and animal populations, energy exchange. Topics include how plants grow in a changing environment, impacts on plants-animals interactions, competition among species, and species diversity at the urban/rural interface. Students will learn to develop and execute a research plan and interpret their data through exercises at local field sites and a field project of their own design. Instructor: Reid. One course.

253S. Urban Environmental Design. EI, NS, SS, STS Overview of urban environmental designs, drawing upon natural and social science based evidence to guide solutions. Focus on innovative approaches that protect and restore ecological value, create sustainable spaces, and address ethical dilemmas arising from conflicting public perceptions of sustainability. Review of survey methods used to gather public opinion and participatory planning models that involve the public in solutions. Examination of national and international design examples. Emphasis will be on professional communication including visual and verbal formats. Instructor: Schauman. One course.


261S. Ecosystem Ecology for a Crowded Planet. EI, NS, SS, STS One course. C-L: see Biology 261S

262. Natural Catastrophes: Rebuilding from Ruins. NS, SS, STS One course. C-L: see Engineering 261; also C-L: Public Policy Studies 277

270A. Conservation Biology and Policy. EI, NS, STS One course. C-L: see Biology 270A; also C-L: Marine Sciences, Marine Science and Conservation

272A. Analysis of Ocean Ecosystems. NS One course. C-L: see Biology 272A; also C-L: Earth and Ocean Sciences 272A, Marine Sciences, Marine Science and Conservation

273LA. Marine Ecology. NS, R, W One course. C-L: see Biology 273LA; also C-L: Earth and Ocean Sciences 374LA, Marine Sciences, Marine Science and Conservation

274. People, Plants and Pollution: Introduction to Urban Environments. NS, STS One course. C-L: see Biology 262

278LA. Physiology of Marine Animals. NS, R, W Variable credit. C-L: see Biology 278LA; also C-L: Marine Sciences, Marine Science and Conservation

279LA. Marine CSI: Conservation Forensics in the Marine Environment. NS, R, STS Application of forensic genetic techniques to the study of marine crime. Reveal marketing frauds, mislabeling of seafood, and fishing violations using modern molecular forensic tools. Field trips to acquire samples for forensic analysis
from local fishermen, retailers and restaurants; hands-on forensic genetics lab work and group assignments. Techniques include microsatellites and restriction fragment length polymorphism. Statistical approaches to forensics and species/population identity and assignment tests. (Given at Beaufort) Prerequisites: Introductory Biology. Instructor: Schultz. One course. C-L: Marine Sciences

280LA. Sound in the Sea: Introduction to Marine Bioacoustics. NS, R, STS Fundamentals of marine bioacoustics with a focus on current literature and conservation issues. Topics include: introduction to acoustics; acoustic analysis methods and quantitative tools; production and recording of sound; ocean noise; propagation theory; active and passive acoustics; hearing, sound production and communication in marine organisms, potential impacts of anthropogenic noise; and regulation of marine sound. Labs will focus on methodologies used for generating, recording and analyzing marine sounds. Taught in Beaufort. Course prerequisites: AP Biology, introductory biology, or consent of instructor; Physics 141L or 161L (or equivalent Physics courses) or consent of instructor. Instructor: Nowacek. One course. C-L: Electrical and Computer Engineering 384LA, Earth and Ocean Sciences 280LA, Marine Sciences, Marine Science and Conservation

281A. Conservation and Management of Protected Areas in South Africa. CCI, SS Management of wildlife and natural resources within the ecological, political, social, historical, and economic context of South Africa. (Taught in South Africa.) Instructor: McClearn. One course.

282A. Environmental Science and Policy of the Tropics. EI, NS, SS, STS Investigates major environmental issues facing tropical nations using concepts from the natural and physical sciences, the social sciences, and resource management. Topics include: climatic and biogeographical patterns, trends in human population size and demography, historical and contemporary issues in resource use and conservation, and sociological and ethical concerns regarding the source and distribution of economic wealth. (Given in Costa Rica.) Prerequisite: Biology 25 or equivalent. Instructor: Shelly. One course. C-L: International Comparative Studies 222A

283A. Hollywood and the Environment: Exploring the Human Connection with Nature Through Film. ALP, CCI, SS Critical assessment of the relationship between people and nature, using film as the springboard for discussion. Assess the human perception of nature, and our place in it, using films representing four major themes: 1) wilderness and the frontier; 2) man vs. nature; 3) international perspectives on nature; and 4) destruction of the environment. Films will be drawn from various genres, including animated film, drama, western, and science fiction. Full-length feature films will be paired with in-class screenings of independent documentary films that are provided to our class by internationally recognized film-makers. (Given at Beaufort) Instructor: Burns. One course. C-L: Marine Sciences, Marine Science and Conservation

284A. South African Ecosystems and Diversity. NS, STS One course. C-L: see Biology 284A


286A. Marine Policy. EI, SS, STS Policy and policy-making concerning the coastal marine environment. History of marine-related organizations, legislation, and issues and their effects on local, regional, national, and international arenas. Use of theoretical and methodological perspectives, including political science, sociology, and economics. (Given at Beaufort.) Instructor: Orbach. One course. C-L: Public Policy Studies 281A, Marine Sciences, Marine Science and Conservation

287A. Marine Conservation Service Learning Course: Challenges at Sea. NS, STS Introduction to marine conservation biology emphasizing community outreach at local middle schools. Material focuses on issues in marine conservation and how they are addressed. Lectures cover principles of conservation, biodiversity, extinction risks, genetic tools, fishery by-catch, over-exploitation, habitat degradation, invasive species, climate change, and marine protected areas. Based on class discussions, students will develop and teach activities that address local conservation topics for middle school students. (Given at Beaufort.) Prerequisite:

288A. Biogeography in an Australian Context. NS, STS One course. C-L: see Biology 288A; also C-L: Earth and Ocean Sciences 288A

289A. Views of Environmental Change: Documentary Research in Natural Resource Management. EI, R, SS Hands-on introduction to the practical skills, theoretical grounding, and ethical sensitivities needed to conduct documentary research on controversial environmental issues. Emphasis on responsibly eliciting and representing diverse stakeholder views. Students will conduct fieldwork on land use change in coastal communities as part of an ongoing Duke Marine Lab research project. Methods introduced will include interviewing, video/audio recording, documentary photography, interview data analysis, and basic video editing. Student teams will produce edited video segments for presentation to a community audience. (Given at Beaufort.) Instructor: Cumming. One course. C-L: Documentary Studies 353A, Marine Sciences, Marine Science and Conservation

290. Special Topics in Environmental Sciences and Policy. Content to be determined each semester. Consent of instructor required. Instructor: Staff. One course.

328S. Science and Technology Policy. SS, STS Review of major political, international, and technical factors which led to current world leadership of the United States in research and development. Examination of trends in federal and industry funding. Reasons for the federal government funding research, ways federal funds should be allocated, relationships among industry, government, and academia. Several current policy issues selected for in-depth analysis. Instructor: Ahearne. One course. C-L: Public Policy Studies 286S

330. Energy and the Environment. NS, SS, STS Overview of the challenges confronting humanity as a consequence of our reliance on energy. Challenges include dwindling supplies, rising demand and environmental degradation. Realistic responses require an understanding of the complexity of the energy system, including energy resources, uses, and impacts, in the context of social, political and economic imperatives. Lectures will be augmented by presentations from guest speakers from industry, government and non-profit organizations. Instructor: Pratson. One course. C-L: Earth and Ocean Sciences 330

344S. Plant Diversity: a Field Approach. NS One course. C-L: see Biology 344S

345. Environmental Politics in the United States. EI, SS, STS One course. C-L: see Political Science 344; also C-L: Public Policy Studies 281

350S. Marine Science and Conservation Leadership. EI, NS, SS, STS Exploration of the complex interactions among science, policy and economics in the use of marine resources. Topics explored include the role individuals play in promoting marine conservation and environmental sustainability. Students will evaluate trade-offs systematically and learn to assess how different policy options affect the incentives of resource users and polluters. Serves as the capstone for the Marine Science and Conservation Leadership Certificate. Prerequisite: introductory economics or consent of instructor. Instructor: Smith. One course. C-L: Public Policy Studies 280S, Marine Sciences, Marine Science and Conservation

358. Introduction to Satellite Remote Sensing. NS One course. C-L: see Earth and Ocean Sciences 358


360. Environmental Chemistry and Toxicology. NS, STS An overview of the fate and effects of chemicals in the environment. Topics include chemical characterization of pollutants, chemistry of natural waters, soil sediment chemistry, atmospheric chemistry, transfers between and transformations within environmental compartments, toxicokinetics, cellular metabolism, biological levels of organization, and approaches for assessing chemical hazards. Incorporates case studies focused on human health and ecosystem protection.
Prerequisite: Biology 101L; Chemistry 101DL and 210DL; Mathematics 21. Instructor: Stapleton. One course. 
C-L: Energy and the Environment

361LS. Terrestrial Field Ecology. NS, R, W One course. C-L: see Biology 361LS

362S. Changing Oceans. NS, STS One course. C-L: see Earth and Ocean Sciences 364S; also C-L: Marine Science and Conservation

363. Economics of the Environment. SS, STS One course. C-L: see Economics 439; also C-L: Marine Science and Conservation, Energy and the Environment

364S. Science and The Media. SS, STS One course. C-L: see Public Policy Studies 381S; also C-L: Policy Journalism and Media Studies

369LA. Biological Oceanography. NS, R Variable credit. C-L: see Biology 369LA; also C-L: Earth and Ocean Sciences 273LA, Marine Sciences, Marine Science and Conservation

370A. Introduction to Physical Oceanography. NS, QS, STS Fundamental physical principles of ocean circulation. Physical properties of seawater; forces acting on the ocean such as heat, pressure gradients, wind stress, rotation, and friction; and conservation equations for heat, mass and momentum. Applications include geostrophic balances, thermal wind, coastally trapped waves, El Nino/ENSO, and tidal circulation. (Given at Beaufort.) Prerequisites: one year of calculus and one year of physics, or permission of instructor. Instructor: Hench. One course. C-L: Earth and Ocean Sciences 370A, Marine Sciences, Marine Science and Conservation

372LA. Biochemistry of Marine Animals. NS, R, W Variable credit. C-L: see Biology 372LA; also C-L: Marine Sciences, Marine Science and Conservation

374SA. Governance of Social-Ecological Systems. CCI, SS, STS Introduction to leading concepts, theories, models, and analytical frameworks to advance understanding of the dynamics of social-ecological systems. Gulf of California, Mexico will be used as a case study. Students will gain firsthand experience with empirical cases. (Given at Beaufort.) Field trip to Mexico required. Consent of instructor required. Instructor: Basurto. One course.

375A. Biology and Conservation of Sea Turtles. NS, STS One course. C-L: see Biology 375A; also C-L: Marine Sciences, Marine Science and Conservation

375LA. Biology and Conservation of Sea Turtles. NS, STS One course. C-L: see Biology 375LA; also C-L: Marine Sciences, Marine Science and Conservation

376A. Marine Mammals. NS, STS One course. C-L: see Biology 376A; also C-L: Marine Sciences, Marine Science and Conservation

376LA. Marine Mammals. NS, R, STS One course. C-L: see Biology 376LA; also C-L: Marine Sciences, Marine Science and Conservation

377LA. Marine Invertebrate Zoology. NS, R Variable credit. C-L: see Biology 377LA; also C-L: Earth and Ocean Sciences 377LA, Marine Sciences, Marine Science and Conservation

378LA. Marine Ichthyology. NS, STS One course. C-L: see Biology 378LA; also C-L: Marine Sciences, Marine Science and Conservation

379LA. Research Methods in Marine Science. NS, R, W One course. C-L: see Biology 379LA; also C-L: Marine Sciences, Marine Science and Conservation

382LA. Marine Molecular Ecology. NS, R, STS Marine ecology from a molecular view focusing on microbes as the dominant organisms in ocean ecosystems. Lecture and laboratory integrate the theory and application of modern molecular techniques to quantify abundance, to assess diversity and to determine the interaction of microbes with each other and the marine environment. Prerequisite: AP Biology, introductory biology, or permission of instructor. (Given at Beaufort.) Instructor: Johnson. One course. C-L: Biology 374LA, Marine Sciences, Marine Science and Conservation

383LA. Marine Molecular Microbiology. NS Introduction to microbiology from a marine perspective. Topics include microbial phylogeny, evolution, symbiosis, biotechnology, genomics, and ecology. Laboratory

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will employ modern molecular techniques to investigate the ecology and evolution of prokaryotic and eukaryotic microbes. Prerequisite: AP Biology, introductory biology, or permission of instructor. (Given at Beaufort.) Instructor: Hunt. One course. C-L: Biology 380LA, Marine Sciences, Marine Science and Conservation

390. Special Topics in Environmental Sciences and Policy. Content to be determined each semester. Consent of instructor required. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in Environmental Sciences and Policy. Topics differ by section. Instructor: Staff. One course.

390S. Special Topics in Environmental Sciences and Policy. Same as Environment 390, taught as seminar. Instructor: Staff. One course.

390SA. Special Topics in Environmental Science and Policy. Marine Lab version of ENVIRON 390. Student must be enrolled at Duke Marine Lab in Beaufort. One course. C-L: Marine Sciences

391. Independent Study. Individual readings course or other non-research-based independent course under the supervision of a faculty member, resulting in an academic product. Open to qualified juniors and seniors with consent of instructor and director of undergraduate studies. Instructor: Staff. One course. C-L: Marine Sciences


393. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to qualified juniors and seniors with consent of instructor and director of undergraduate studies. Instructor: Staff. One course. C-L: Marine Sciences

393-1. Research Independent Study. R See Environment 393. Open to qualified juniors and seniors with consent of instructor and director of undergraduate studies. Half course. Instructor: Staff. Half course. C-L: Marine Sciences

393A. Research Independent Study. R Marine Lab version of ENVIRON 393. Offered at Beaufort. Instructor: Staff. One course. C-L: Marine Sciences

452L. Energy and Environment Design. NS, R An integrative design course addressing both creative and practical aspects of the design of systems related to energy and the environment. Development of the creative design process, including problem formulation and needs analysis, feasibility, legal, economic and human factors, environmental impacts, energy efficiency, aesthetics, safety, and design optimization. Application of design methods through a collaborative design project involving students from the Pratt School of Engineering and Trinity College. Open only to students pursuing the undergraduate certificate in Energy and Environment. Instructor consent required. Instructor: Pratson. One course.

490. Senior Capstone Course. NS, R, SS, STS Interdisciplinary and in-depth study of contemporary environmental issues. Content to be determined each semester. Consent of Instructor required. Instructor: Staff. One course.

501. Environmental Toxicology. Study of environmental contaminants from a broad perspective encompassing biochemical, ecological, and toxicological principles and methodologies. Discussion of sources, environmental transport and transformation phenomena, accumulation in biota and ecosystems. Impacts at various levels of organization, particularly biochemical and physiological effects. Prerequisites: organic chemistry and vertebrate physiology or consent of instructor. Instructor: Di Giulio.

503. Forest Ecosystems. Emphasis on the processes by which forests circulate, transform, and accumulate energy and materials through interactions of biologic organisms and the forest environment. Ecosystem productivity and cycling of carbon, water, and nutrients provide the basis for lecture and laboratory. Instructor: Oren.
505. **Tree Structure and Function.** NS Designed primarily for graduate students and advanced undergraduates in areas of ecology, forestry or related disciplines who desire basic understanding of how plants (special focus on woody plants) function at various scales from molecules to canopies. Course will facilitate application of plant physiological principles in the students' specific areas of interest. Focus is on responses of water loss and carbon gain of plants to variation in their environment. Background in biology preferred. Instructor: Palmorth, Domec.


517D. **Tropical Ecology.** NS, STS Ecosystem, community, and population ecology of tropical plants and animals with application to conservation and sustainable development. Prerequisite: a course in general ecology. Instructor: Terborgh. C-L: Biology 561D, Latin American Studies


531. **Economic Analysis of Resource and Environmental Policies.** SS Case and applications oriented course examining current environmental and resource policy issues. Benefits and costs of policies related to sustaining resource productivity and maintaining environmental quality will be analyzed using economic and econometric methods. Topics include benefit-cost analysis, intergenerational equity, externalities, public goods, and property rights. Prerequisite: Environment 520 or equivalent and Environment 710 or equivalent. Instructor: Vincent.

532. **Evaluation of Public Expenditures.** SS C-L: see Public Policy Studies 596; also C-L: Economics 521

533A. **Marine Fisheries Policy.** EI, SS Principles, structure, and process of public policy-making for marine fisheries. Topics include local, regional, national, and international approaches to the management of marine fisheries. A social systems approach is used to analyze the biological, ecological, social, and economic aspects of the policy and management process. (Given at Beaufort.) Instructor: Orbach. C-L: Marine Sciences, Marine Science and Conservation


537. **Environmental Health.** NS, STS Introduction to environmental effects on human health. Focus on chronic effects of exposure to pollution and other stressors, the interaction between anthropogenic environmental changes and infectious diseases, and the relationship between human health and ecosystem health. Includes lectures from a variety of experts in this field from throughout the Triangle region. Course is designed to facilitate maximum student participation through discussion. For graduate and advanced undergraduate students. Instructor: DiGiulio/Meyer.
538. Global Environmental Health: Economics and Policy. SS, STS Social science perspective on global environmental health. Students will learn to identify primary environmental causes of high burden diseases such as malaria, diarrhea, and respiratory infections; describe how to measure socio-economic impacts of global environmental health diseases; discuss key policies to control global environmental health problems based on private prevention and therapeutic behaviors; and propose frameworks to empirically monitor and evaluate global environmental health policies. A sub-module will focus on climate change and water-borne diseases. Prerequisites: Introductory course in statistics. Instructor: Pattanayak. C-L: Global Health Certificate

538, Public Policy Studies 582

539. Human Health and Ecological Risk Assessment. Topics central to both health and ecological risk assessment are explored. Basic concepts of hazard identification, dose-response relationships, exposure assessment, and risk characterization and communication are discussed in the context of both human health and environmental assessment. The basis and rationale for using specific, as well as extrapolated, scientific information and expert judgment, and the strengths and weaknesses of alternative approaches, are evaluated. Applications emphasizing real cases are used to illustrate the interdisciplinary process and products of risk assessment, as well as the regulatory use of the information. Group projects emphasized. Instructors: Mihaich and McMasters.

540. Chemical Fate of Organic Compounds. Equilibrium, kinetic, and analytical approaches applied to quantitative description of processes affecting the distribution and fate of anthropogenic and natural organic compounds in surface and groundwaters, including chemical transfers between air, water, soils/sediments, and biota; and thermochemical and photochemical transformations. The relationships between organic compound structure and environmental behavior will be emphasized. Sampling, detection, identification, and quantification of organic compounds in the environment. Prerequisites: university-level general chemistry and organic chemistry within last four years. Instructor: Stapleton. C-L: Civil and Environmental Engineering 563


548. Solid Waste Engineering. C-L: Civil and Environmental Engineering 672

549. California Water Crises: A Case Study Approach. NS, R, SS, STS Reviews history of California’s water dependent economy, leading to a capture, storage system with conveyances extending thousands of miles to deliver water for agriculture, industry and homes. Examines recent political change coupled with chronic issues of a water-rich north, an expanding urban population and a water-poor but politically strong south. Emphasis includes climate change, seismic vulnerability, redirection of river flows, and large scale water reuse. Course will cover specific water crises in other states and nations, providing in depth coverage of aspects of the international crisis in quantity and quality of freshwater. Instructor: Hinton.

550. Land Use Principles and Policy. SS C-L: see Public Policy Studies 578

551DA. International Conservation and Development. CCI, SS Interrelated issues of conservation and development. Topics include the evolution of the two concepts and of theories regarding the relationship between them, the role of science, values, ethics, politics and other issues in informing beliefs about them, and strategies for resolving conflicts between them. While attention will be given to all scales of interaction (i.e. local, regional, national, international), the focus will be on international issues and the `north-south' dimensions of the conservation and development dilemma. Examples from marine and coastal environments will be highlighted. Consent of instructor required. (Given at Beaufort.) Instructor: Campbell. C-L: Marine Sciences, Marine Science and Conservation
556. Environmental Conflict Resolution. Practical techniques and scholarly underpinnings of environmental conflict resolution, including interest-based negotiation, mediation, public disputes, science-intensive disputes, and negotiation analysis. In-class time will be spent conducting negotiation role plays of increasing complexity and then debriefing them. Outside of class, students will prepare for the role plays and read background material to aid in debriefing. Students will keep a journal of their experiences. Consent of instructor required. Instructor: Maguire.

557. Social Science Surveys for Environmental Management. Social science research methods for collecting data for environmental management and policy analysis. Sampling, survey design, focus groups, pretesting, survey implementation, coding, and data analysis. Team projects emphasize development and practice of survey skills. Prerequisite: introductory applied statistics or equivalent. Instructor: Kramer.


564. Biogeochemistry. NS, STS C-L: see Biology 564

572. Economic Evaluation of Sustainable Development. EI, SS C-L: see Public Policy Studies 574

573A. Coastal Ecotoxicology and Pollution. NS Principles of transport, fates, food-web dynamics, and biological effects of pollutants in the marine environment. No laboratories. Short local field trips possible. (Given at Beaufort.) Prerequisites: AP Biology, introductory biology, or consent of instructor; introductory chemistry or consent of instructor. Instructor: C. Bonaventura. C-L: Marine Sciences, Marine Science and Conservation


575L. Biodiversity Science and Application. NS, R C-L: see Biology 565L

577. Environmental Politics. SS C-L: see Public Policy Studies 577

579L.A. Biological Oceanography. Physical, chemical, and biological processes of the oceans, emphasizing special adaptations for life in the sea and factors controlling distribution and abundance of organisms. Four units (spring); six units (summer). (Given at Beaufort.) Prerequisite: introductory biology. Instructor: Staff. Variable credit.

579S. Collective Action, Environment, and Development. SS C-L: see Public Policy Studies 579S

580A. Green Futures: Exploring Environmental, Economic, and Social Sustainability. EI, NS, SS, STS Theory and application of environmentally and socially sustainable practices in settings including businesses, academic institutions, and personal lives. Ethical concerns that accompany modern local and global environmental problems. Challenges, trade-offs between costs and benefits, and potential solutions to different greening options. Topics include alternative energy production and consumption, sustainable agriculture practices, resource conservation, environmental assessments, economic questions and social responsibility. (Given at Beaufort.) Prerequisites: None for graduate students. Undergrads: Introductory Biology and Environmental Science and Policy or consent of instructor. Instructor: Rittschof. C-L: Marine Sciences, Marine Science and Conservation, Energy and the Environment
583S. Energy and U.S. National Security. CCI, EI, SS, W C-L: see Public Policy Studies 583S; also C-L: Political Science 663S

585A. Fisheries Ecology. NS Current topics in fish and fisheries ecology, explored through lecture and discussion of primary literature. Participation in collaborative research and synthesis projects. Intended for master and doctoral students; undergraduates by permission of instructor. Prerequisites: basic knowledge of ecology and oceanography. Instructor: Staff. One course. C-L: Marine Science and Conservation

590. Special Topics. Content to be determined each semester. May be repeated. Instructor: Staff. Variable credit. C-L: Marine Sciences

590S. Special Topics. Seminar version of 590. Instructor: Staff. Variable credit.

590SA. Seminar in Ocean Sciences. Biological, chemical, physical, and geological aspects of the ocean and their relation to environmental issues. Consent of instructor required. (Given at Beaufort.) Instructor: Staff. Variable credit. C-L: Marine Sciences

615S. Environmental Issues & the Documentary Arts. ALP C-L: see Documentary Studies 615S; also C-L: Arts of the Moving Image 643S

627. Molecular Ecology. NS, STS Explore use of molecular tools to investigate ecological processes within natural populations and communities from terrestrial to marine. Emphasis on fundamental principles and predictions from ecological and evolutionary theory, as well as historical approaches and precedents. In addition to exploring very basic ecological questions, course discusses interpretation of molecular datasets to evaluate applied ecological problems with societal implications (e.g., conservation, antibiotic resistance, genetically modified crops, adaptation to climate change). Open to graduate students, and upper-level undergraduates with backgrounds in ecology and/or molecular biology. Instructor: Wernegreen. C-L: Genome Sciences and Policy 627

631. Energy Technology and Impact on the Environment. NS, STS Efficiencies and environmental impacts of both new and established energy sources and conversion methods. Consideration of alternative energy technologies, including electricity generation by fossil fuels, nuclear, solar, wind and water; space heating and cooling by traditional methods and by solar; and transportation energy in automobiles, mass transit and freight. Environmental consequences of energy choices on local, national and global scales, including toxic emissions, greenhouse gases and resource depletion. Instructor: Bejan, Cocks and Knight. One course. C-L: Energy and the Environment

635. Energy Economics and Policy. SS Economics of markets and policies for various energy supply sources, energy demand and efficiency, their interactions with each other and with economy and environment. Will explore rationales for why markets for energy and related technologies have been subject to extensive government intervention. Course will analyze - both conceptually and through analytic tools - effects of policy responses, including energy price regulation, traditional market-based environmental regulation and policy motivated by energy security concerns. Prerequisites: Introductory Microeconomics (ECON 101 or equivalent), applied regression analysis (ENVIRON 710 or equivalent), college calculus. Instructor: Newell.

637S. Population and Environmental Dynamics Influencing Health. NS, SS One course. C-L: see Global Health Certificate 637S

650S. Advanced Topics in the Conservation of Biodiversity. NS Current topics in conservation and biodiversity. Intended for graduate students; advanced undergraduate students admitted with permission of instructor. Prerequisite: introductory conservation biology or permission of instructor. Instructor: Pimm.

665L. Models for Environmental Data. NS C-L: see Biology 665L; also C-L: Information Science and Information Studies, Modeling Biological Systems

680. Economics of Forest Resources. SS Core economic theory of forest management and application of theory to selected forestry policy issues. Course focuses on management of forests for timber production as well as for non-timber values. Concepts explored include policy challenges such as biodiversity conservation,
deforestation, community forest management, and payments for ecosystem services. Two groups of economic tools will be used: non-market valuation methods and program evaluation techniques. Prerequisites: college-level calculus, microeconomics and statistics, as well as Excel proficiency. Instructor: Vincent.

THE MAJOR

The Bachelor of Arts degree in Environmental Sciences and Policy and the Bachelor of Science degree in Environmental Sciences are offered within the Environmental Sciences and Policy Program of the Nicholas School of the Environment.

For the A.B. Degree

**Corequisites.** The following courses or their equivalents (for example, Advanced Placement credit) are required. Approval to substitute courses taken at other universities must be obtained from the director of undergraduate studies in the department offering the course. Some of these courses are prerequisite to some upper-level courses in this major.

- Environment 102, Introduction to Environmental Sciences and Policy
- Biology 201L or 202L, Gateway to Biology
- Chemistry 101DL, Advanced General Chemistry, or equivalent
- Economics (either Economics 101, Economic Principles; or Public Policy 303D, Microeconomic Policy Tools) or equivalent
- Earth and Ocean Sciences 101, The Dynamic Earth; or Earth and Ocean Sciences 102, The Dynamic Oceans (C-L: Biology 157)
- Mathematics 111L, Introductory Calculus, or equivalent (e.g. Mathematics 25L and 26L)

**Major Requirements.**

1. **Core Course:** Environment 201, Integrating Environmental Sciences and Policy
2. **Ecology/Biodiversity course.** One of the following or approved substitution:
   - Environment 210D Conserving the Variety of Life on Earth; or Biology 205 Marine Megafauna (C-L Environment 205); Biology 206L Organismal Diversity; Biology 207 Organismal Evolution; Biology 209 Ecology for a Crowded Planet; Biology 330L Anatomy of Vertebrates; or Biology 340L, Plant Diversity; or Biology 377LA Marine Invertebrate Zoology (C-L: Environment/EOS 377LA)
3. **Environmental Policy course.** One of the following or approved substitution:
   - Environment 212/Public Policy Studies 275 United States Environmental Policy; Environment 216S Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding (C-L: Political Science 152S; Public Policy 167S); Public Policy 274/Political Science 260D Environmental Politics and Policies in the Developing World; Environment 286A Marine Policy; or Environment 533A Marine Fisheries Policy
4. **Probability and Statistics.** One course from the following or approved substitution:
   - Statistics 101 Data Analysis and Statistical Inference; Statistics 102 Introductory Biostatistics; Statistics 103 Statistics in the Courtroom; Statistics 111 Probability and Statistical Inference; Statistics 130 Probability and Statistics in Engineering; Psychology 201 Introduction to Statistical Methods in Psychology; Sociology 333 Quantitative Analysis Sociology; Biology 281LA Research Methods in Tropical Biology; Political Science 471L Quantitative Political Analysis; Economics 208D Introduction to Econometrics; Evolutionary Anthropology 381 Biometry
5. **Focused Study.** Five upper-level courses proposed by students in consultation with their advisors to fit a particular theme or career objective. Courses are generally selected from approved lists in each of the social sciences/humanities and sciences/engineering areas, available at [http://www.nicholas.duke.edu/programs/undergrad/masterlist.pdf](http://www.nicholas.duke.edu/programs/undergrad/masterlist.pdf). Students will submit to their advisor, usually at the beginning of their junior year, a written rationale for the courses selected, including the title of their focus study theme.
6. **Independent Study/Internship/Field Experience.** Students are also expected to complete an independent study, internship, or field experience which may or may not include course credit.
Focused Study in Marine Science and Policy

An exciting area in environmental science and policy is the study of the oceanic realm, including the ecology of marine animals and plants, the dynamics of marine ecosystems, marine policy and management, and environmental monitoring. Majors in environmental science and policy may fulfill much of their focused study requirement with courses in marine science and policy by studying at the Duke Marine Laboratory on the coast in Beaufort, NC, which often includes fieldwork excursions to other areas of the world (e.g., Hawaii, Trinidad, Singapore). Popular courses include: Marine Mammals; Marine Ecology; Marine Policy; Biology and Conservation of Sea Turtles; Urban Tropical Ecology (see full course listings at: www.nicholas.duke.edu/marinelab/programs). Students typically also perform a research Independent Study project on a topic of interest supervised by a faculty member of the Marine Laboratory.

For the B.S. Degree

Corequisites: The following courses or their equivalents (for example, Advanced Placement credit) are required. Approval to substitute course taken at other universities must be obtained from the director of undergraduate studies in the department offering the course. Some of these courses are prerequisites to upper-level courses in this major.

- Biology 201L or 202L, Gateway to Biology or equivalent
- Chemistry 101DL and either Chemistry 210DL or 201DL or equivalents. Advanced General Chemistry
- Physics 161L Introductory Physics; or equivalent
- Mathematics 111L and 112L, or equivalent. Introductory Calculus
- Environment 102 Introduction to Environmental Sciences and Policy; or Earth and Ocean Sciences 101 The Dynamic Earth; or Earth and Ocean Sciences 102 The Dynamic Oceans (C-L: Biology157)

Major Requirements

1. Five Core Courses selected from the following six courses or course lists:
   A. Ocean and Atmosphere Dynamics (Earth and Ocean Sciences 202)
   B. Environmental Chemistry and Toxicology (Environment 360) or Environmental Health (Environment 537)
   C. The Evolving Earth and Life (Earth and Ocean Sciences 204L)
   D. Hydrogeology (Earth and Ocean Sciences 323)
   E. One course from an approved list of ecology courses. Approved course list includes:
      - Biology 205. Marine Megafauna
      - Biology 209. Ecology for a Crowded Planet
      - Biology 273LA/Environment 273LA. Marine Ecology
      - Biology 280LA Fundamentals of Tropical Biology
      - Biology 369LA/Environment 369LA. Biological Oceanography
      - Biology 272A/Environment 272A. Analysis of Ocean Ecosystems
   F. One course from an approved list of courses that focus on the interface between humans and the environment. Approved course list includes:
      - Environment 201. Introduction to Environmental Sciences and Policy
      - Environment 210D. Conserving the Variety of Life on Earth
      - Environment 214S. Ethical Challenges in Environmental Conservation
      - Environment 212/Public Policy Studies 275. United States Environmental Policy
      - Environment 216S. Environment and Conflict
      - Environment 253S. Urban Environmental Restoration and Design
      - Environment 281A. Cons/Mgt Protected areas S. Africa
      - Environment 282A. Environmental Science and Politics of the Tropics
      - Environment 350S. Capstone: Marine Science and Conservation Leadership
Biology/Environment 270A. Conservation Biology and Policy (Beaufort)
Philosophy 215. Applied Environmental Ethics

2. Probability and Statistics (Statistics 101, 103, 111, or equivalent)
3. Focused Study. Three upper-level natural science, engineering or mathematics courses proposed by the student in consultation with their advisor to form a concentration area. Student will submit to their advisor, usually at the beginning of their junior year, a written rationale for the courses selected, including the title of their focus study theme.

**Focused Study in Marine Science**

An exciting area in environmental science is the study of the oceanic realm, including the ecology of marine animals and plants, the dynamics of marine ecosystems, marinetoxicology and environmental monitoring. Majors in environmental science and may fulfill their focused study requirement with courses in marine science by studying at the Duke Marine Laboratory on the coast in Beaufort, NC, which often includes fieldwork excursions to other areas of the world (e.g., Hawaii, Trinidad, Singapore). Popular courses include: Marine Mammals; Marine Ecology; Biological Oceanography; Analysis of Ocean Ecosystems; Biology and Conservation of Sea Turtles; Urban Tropical Ecology (see full course listings at: www.nicholas.duke.edu/marinelab/programs). Students typically also perform a research Independent Study project on a topic of interest supervised by a faculty member of the Marine Laboratory.

Advising. Advisors are assigned based on students' general areas of interest. Students present a proposed plan of study to their advisors that explains the rationale for their chosen area of concentration within their focused study. The program encourages close relationships between faculty and students with convergent interests.

Independent Study, Internship, or Field Experience. Students pursuing either the A.B. or B.S. degree complete an independent study, internship, or a field experience, which may or may not include course credit. The Duke Career Center maintains information on available internships. Field experiences may include a semester or summer session at the Duke University Marine Laboratory or participation in field oriented study abroad programs. Independent study typically involves a supervised research experience (see: www.nicholas.duke.edu/people/undergrad/independent-study).

**THE MINOR**

**Environmental Sciences and Policy**

Requirements: Five courses: two core courses (Environment 102 and Environment 201); the remaining three courses selected from 200-level or above Environment courses, which may include one substitution of a course in another department.

**Graduation with Distinction**

The Environmental Sciences and Policy and Environmental Sciences both offer a Graduation with Distinction option. Interested students with a 3.0 grade point average overall and 3.2 grade point average in the Environmental Sciences/Policy major should apply by the beginning of their senior year. The application should include a written request to the director of undergraduate studies describing the proposed research project, and identifying a primary faculty advisor who has agreed to supervise the research. Participants write a substantial paper describing their completed research, which is evaluated by the faculty advisor. The student will also make an oral presentation to students and faculty of the program before the end of classes of the student's final semester. For additional information and an application form, contact the director of undergraduate programs or visit www.nicholas.duke.edu/people/undergrad/graduation-with-distinction.
Study of Ethics (ETHICS)

Visiting Professor Brown, Director

A certificate, but not a major, is available in this program.

The goal of the undergraduate certificate in the Study of Ethics is to provide students with an opportunity to pursue a rigorous cross-disciplinary study of ethics. Such a course of study requires familiarity with systematic ethical theories and traditions of moral wisdom and reflection, an understanding of how ethical issues have been framed across history and cultures, experience delving into ethical issues through literature and the arts, and insights into how ethical challenges are being conceptualized and negotiated in practice by policy-makers, researchers, doctors, journalists and others. Ethics cannot be isolated within one or two disciplines. It is an inherently cross-disciplinary inquiry that needs to draw on tools, methods, and contexts from multiple disciplines. That is why certificate students are required to take courses across five categories, including philosophical ethics, cross-cultural ethical traditions, ethics in historical perspective, ethics in literature and the arts, and ethics of contemporary issues, in addition to the introductory course and the capstone research seminar. The program also provides opportunities for students to come together with each other and with faculty to discuss the varieties of ways individuals and disciplines approach ethical inquiry. These opportunities are formalized in two required .5-credit discussion courses.

Eight courses (seven credits) are required for completion of the certificate program:

- Ethics 101D. The Challenges of Living an Ethical Life (introductory course)
- Discussions in Ethics: Ethics 102S-1 and 102S-2. Engaging Ethics Outside the Classroom. These two .5-credit courses allow students to meet with faculty and non-academic professionals to discuss ethical issues they address in their classes, in their research, and in their careers.
- Ethics 490S. Capstone Research Seminar in Ethics.

Students must also complete courses in the following five categories:

- I. Philosophical Ethics. Students must take one course, which must be Philosophy 207 Philosophy 216, Philosophy 217, or Political Science 223. One additional approved philosophical ethics course may be taken.
- II. Cross-Cultural Ethical Traditions. Students must take at least one course from a list of approved courses in this category. Students may take two courses in this category.

Students must take at least one course, and may take two, from a list of approved courses in categories III and IV:

- III. Ethics in Historical Perspective.
- IV. Ethics in Literature and the Arts
- V. Ethics of Contemporary Issues. Students may take one course from a list of approved courses in this category.

To summarize, students must take one course from each of categories I and II, one course in either category III or IV, and one additional course in any of the five categories. All students must take the introductory course, two half-credit "Discussions in Ethics" courses, and the capstone course.

Following is a list of courses which have historically been approved for the Certificate in the Study of Ethics. Please see the Ethics Certificate program website for a complete current course listing as well as approved courses from past semesters: http://Kenan.ethics.duke.edu/education/ethics-certificate-program/curriculum/.

ETHICS COURSES

101D. The Challenges of Living an Ethical Life. CZ, EI

Familiar but fundamental ethical questions: What is a good, worthy or just life? How is it to be lived, toward what ends? Readings include dramas and philosophical analyses, parables and autobiographies, polemics and meditations, novels and political
commentaries. Introductory course for the Certificate Program in the Study of Ethics. Instructor: Staff. One course. C-L: Political Science 120D

102S-1. Discussions in Ethics: Engaging ethics outside the classroom. EI This course is one of two 1/2 credit courses required for the Certificate in the Study of Ethics. Students from the certificate program will meet with faculty and with non-academic professionals to discuss the ways they address ethical issues in their work. It is recommended that students complete the Gateway course before enrolling in Ethics 102. Open only to students in the Ethics Certificate Program. Instructor: Staff. Half course.

102S-2. Discussions in Ethics II: Engaging Ethics Outside the Classroom. EI One of two half credit courses required for the Certificate in the Study of Ethics. Students meet with faculty and non-academic professionals to discuss the ways they address ethical issues in their work. Recommended that students complete at least one other course in the Ethics Certificate Program, ideally the Gateway, before enrolling in 103S. Open only to students in the Ethics Certificate Program. Instructor: Staff. Half course.

129FS. Acting Globally, Thinking Normatively. EI, SS One course. C-L: see Philosophy 129FS

190FS. Special Topics in Ethics (Focus Program). EI Topics vary. Open only to students in the Focus program. Topics course. Department consent required. Instructor: Staff. One course.

199FS. The Limits of Obligation? World Refugee Policy and International Law. CCI, EI, SS One course. C-L: see Sociology 178FS

204. Feminist Ethics. CCI, EI, SS One course. C-L: see Women's Studies 367

204S. Feminist Ethics. CCI, EI, SS One course. C-L: see Women's Studies 367S

235S. Muslim Philosophy and Theology, an introduction. CZ, EI One course. C-L: see Religion 374S; also C-L: Islamic Studies

261. The Arts and Human Rights. ALP, EI, SS One course. C-L: see Cultural Anthropology 248; also C-L: Music 238, Public Policy Studies 252

265. Applied and Environmental Ethics. CZ, EI, STS One course. C-L: see Philosophy 215; also C-L: Marine Science and Conservation

269. Neuroethics. EI, NS, SS, STS One course. C-L: see Neuroscience 267; also C-L: Psychology 278, Philosophy 353

270. Business Ethics: The Debate Over Corporate Social Responsibility. EI, SS One course. C-L: see Philosophy 270; also C-L: Markets and Management Studies

272S. Partnering and Parenting; An Interdisciplinary Approach to the Study of Human Relationships. CCI, EI, NS, SS, STS One course. C-L: see Evolutionary Anthropology 240S; also C-L: Sociology 216S

280. Taboo Markets. EI, SS Exploration of the social organization of taboo, stigmatized, or otherwise morally controversial markets. Examples include markets for alcohol and other drugs, sex work, gambling, adoption, domestic labor, blood, organs, eggs, sperm, genetic material, viaticals, and pollution rights. Examination of both empirical and normative studies of such exchanges, together with debates surrounding the creation, expansion, and regulation of these markets. Includes consideration of broader arguments about the scope and limits (if any) of the market as a social institution, and its relationship to other modes of exchange. Instructor: Healy. One course. C-L: Sociology 340

290. Special Topics in Ethics. EI, SS Topics vary. One course.

290S. Special Topics in Ethics. Topics vary by semester. Seminar version of Ethics 290. Instructor: staff. One course.

293. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Instructor: Shanahan. One course.
360S. Civic Engagement: Reflection and Transformation. CCI, CZ, EI, SS One course. C-L: see Religion 270S; also C-L: Public Policy Studies 255S

490S. Capstone Research Seminar in Ethics. EI, R, SS, W This intensive senior seminar is the capstone for the Ethics Certificate Program. Here they return to the central theme of the Gateway course, Challenges of Living an Ethical Life, through research. Students bring together interdisciplinary insights from previous work in the certificate program to shed light on major contemporary debates in the study of ethics and the world's most pressing social problems. Instructor: Staff. One course.

561. History of Poverty in the United States. CCI, CZ, SS A history of poverty and poverty policy in the United States from the colonial era to the present. The changing experience of poverty, efforts to analyze and measure poverty, and attempts to alleviate or eliminate it. Attention paid to the reasons for the durability of poverty in a wealthy nation and to the forces shaping the contours of anti-poverty policy. Instructor: Staff. One course. C-L: History 546, Public Policy Studies 528

562S. Understanding Ethical Crisis in Organizations. EI, R, SS This course examines the causes and consequences of ethical crisis across business, military, higher education and religious institutions. Emphasis is on identifying why certain organizations are more prone to ethical problems and certain organizations better able to manage them. A core goal is to develop real-world solutions to ethical challenges organizations face in contemporary societies worldwide. Instructor: Pickus. One course. C-L: Political Science 502S, Sociology 542S, Public Policy Studies 558S

590S. Special Topics in Ethics. EI Topics vary. Instructor: Staff. One course.

ETHICS COURSES OFFERED THROUGH OTHER DEPARTMENTS

African and African American Studies
212. Europe's Colonial Encounter, 1492-1992
243. The Civil Rights Movement

Art History
281. Global Art Since 1945

Canadian Studies
312. Europe's Colonial Encounter, 1492-1992

Classical Studies
374. Ancient Political Theory
571S. Ancient Political Philosophy

Cultural Anthropology
240S. The Anthropology of Hinduism: From Encounter to Engagement
256. Islamic Civilization I
257. Islamic Civilization II
395AS. Environment, Health, and Development in China

Economics
361. Prisoner's Dilemma and Distributive Justice

Education
101. Social and Philosophical Foundations of Education
237. Contemporary Issues in Education
240. Educational Psychology (C, D)
243S. Children, Schools, and Society
251S. Literacy and Service Learning
252S. Civic Engagement and the Duke-Durham Partnership
408S. Teaching Practices in Elementary Language Arts and Social Studies
430S. Women and the Professions
496S. Secondary School Issues: Pedagogy, Culture, and Methods

Engineering
350S. Ethics in Professions: Scientific, Personal and Organizational Frameworks

English

German
370. The Devil's Pact: Faust and the Faust Tradition

Global Health Certificate
383AS. Environment, Health, and Development in China

History
210. Islamic Civilization I
211. Islamic Civilization II
243. History of the Christian Church
251. Jewish History, 1492 to the Present
259. The Reformation of the Sixteenth Century
298. Genocide in the Twentieth Century
312. Europe's Colonial Encounter, 1492-1992
348. The Civil Rights Movement
552S. Twentieth Century Social Movements in America

**Human Development**
260. Psychosocial Aspects of Human Development (D)

**International Comparative Studies**
219. Global Art Since 1945
380. Islamic Mysticism: Perso-Indian (Eastern) Traditions

**Jewish Studies**
145. The Old Testament/Hebrew Bible
251. Jewish History, 1492 to the Present
335. Jewish Mysticism
341. Jewish Ethics

**Medieval and Renaissance Studies**
268. Islamic Civilization I
269. Islamic Civilization II
284. The Reformation of the Sixteenth Century
340. Jewish Mysticism

**Philosophy**
123FS. Introduction to Political Philosophy
206. Philosophy of Law
207. Political and Social Philosophy
217. Ancient and Modern Ethical Theory
218. Philosophical Issues in Medical Ethics
246. Prisoner's Dilemma and Distributive Justice
262. Human Rights in Theory and Practice
263. Chinese Philosophy
571. Ancient Political Philosophy

**Political Science**
175. Introduction to Political Philosophy
175D. Introduction to Political Philosophy
175FS. Introduction to Political Philosophy
275D. Left, Right, and Center: Competing Political Ideals
299SA. Environment, Health, and Development in China
331. Prisoner's Dilemma and Distributive Justice
355. Comparative Health Care Systems
357. Civilians in Path of War
373. Introduction to American Political Thought
376S. Distributive Justice
381. Theories of Liberal Democracy
382. Politics and Literature
384. Ancient Political Theory
385. Ambition and Politics
387. Multiculturalism and Political Theory
388. Human Rights in Theory and Practice
575S. Ancient Political Philosophy
578S. Contemporary Theories of Liberal Democracy
584S. Modern Political Theory
586S. Political Thought in the United States

**Psychology**
236. Psychosocial Aspects of Human Development (D)
240. Educational Psychology (C, D)

**Public Policy Studies**
231. Human Rights in Theory and Practice
234S. Distributive Justice
243S. Children, Schools, and Society
Evolutionary Anthropology (EVANTH)

Professor Pusey, Chair; Associate Professor of the Practice Digby, Director of Undergraduate Studies; Professors Glander, Kay, Pusey and Schmitt; Associate Professors Churchill and Drea; Assistant Professors Hare and Tung; Professors Emeriti Cartmill, Hylander and Simons; Associate Research Professor Wall; Associate Professors of the Practice Digby and Williams; Research Associates Carreño, Doyle, Gilby and Hotzman. Secondary Appointments: Professors Alberts (biology), Moorman (orthopaedic surgery), Myers (biomedical engineering), Smith (biology), Yoder (biology) and Wray (biology). Associate Professors Brannon (psychology and neuroscience), Platt (neurobiology), Roth (biology) and Taylor (physical therapy); Adjunct Professors Lambert, Rose and Struhsaker, Adjunct Associate Professor Ankel-Simons; Adjunct Assistant Professors Bergl, Hanna, Horvath-Roth, Linder, Schreier, Sims, and Steenhuyse

A major or a minor is available in this department.

Evolutionary Anthropology is an interdisciplinary department centering on the origin and evolution of human beings and their close biological relatives. The department and its course offerings have three general focuses: primate behavior, ecology, and cognition; primate paleontology; and functional and comparative anatomy. Significant opportunities for independent research are found at the Duke Lemur Center, which houses a unique and diverse range of nonhuman primates, especially prosimians from Madagascar. Advanced students can study original fossils and casts at the division of fossil primates (Duke Lemur Center) and in the department's laboratories, which also afford opportunities to study comparative anatomy from an adaptive and evolutionary perspective.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.
101. Introduction to Evolutionary Anthropology. NS, STS The study of human origins, anatomy, and behavior from an evolutionary perspective. The historical development of pre-Darwinian evolutionary thinking and Darwin's contribution to evolutionary theory; genetics; microevolution and macroevolution; the modern synthesis framing the study of human origins and behavior in the context of modern evolutionary biology; primate behavioral ecology and evolution; a survey of primate and human paleontology, adaptation and variation; the origins of human social organization and culture; the impact of modern humans on biodiversity. Instructor: Digby, Glander, or staff. One course.

101D. Introduction to Evolutionary Anthropology. NS, STS The study of human origins, anatomy, and behavior from an evolutionary perspective. The historical development of pre-Darwinian evolutionary thinking and Darwin's contribution to evolutionary theory; genetics; microevolution and macroevolution; the modern synthesis framing the study of human origins and behavior in the context of modern evolutionary biology; primate behavioral ecology and evolution; a survey of primate and human paleontology, adaptation and variation; the origins of human social organization and culture; the impact of modern humans on biodiversity. Lecture is the same as Evolutionary Anthropology 101, but adds a 50 minute discussion section with hands-on access to fossil casts, etc. Instructor: Staff. One course.

118FS. Introduction to Evolutionary Genomics and Analysis Methods. NS, STS One course. C-L: see Genome Sciences and Policy 128FS

180. Natural History of Humans: The Evolution of our Anatomy, Physiology and Behavior. NS, STS What it means to be human. The fundamental mechanism of evolution with a specific emphasis on the interplay of environmental and genetic factors. The unique characters of human beings including our anatomy, art, tool-making, burial, and eventual control of the environment and how those features came to be. Modern human biological variation as it relates to global health and discussion of biological aspects of race. Course intended for non-majors. Instructor: Schmitt. One course.


190FS. Focus Program Special Topics. NS Special topics seminar open only to students in the Focus Program. Instructor: Staff. One course.

220. Human Evolution. NS Evolutionary biology of the hominidae. Anatomical and behavioral adaptations and phylogeny of fossils and living primates including Homo sapiens. Prerequisite: Evolutionary Anthropology 101 or equivalent. Instructor: Churchill or staff. One course.

221S. The Ape-Human Transition. NS, R Fossil casts, literature, and discussion used to explore critical periods in evolutionary transition from ape to human. Anatomical changes in fossil primates of the Miocene and Pliocene epochs (~24-1.8 mya), a time period during which ape species and human ancestors differentiated. Will discuss findings in genomics relevant to the transition (e.g. language acquisition) and aspects of social complexity reflected in the fossil record or by inference from living primates). Instructor: Williams. One course.

230. Bodies of Evidence: Introduction to Forensic Anthropology. NS, STS An introduction to medicolegal anthropology and death investigation. Topics include crime scene protocol and body recovery, basics of osteology, determining time since death, making personal identification, determining the manner and mode of death, postmortem modification of skeletal remains, protocols for mass disasters, human rights applications, and courtroom testimony. Open to both majors and non-majors. Instructor: Churchill. One course.


235L. Primate Anatomy. NS The comparative anatomy of primates from the perspective of adaptation and phylogeny. Laboratory includes study of bones, fossil casts, prosections of nonhuman primates. Prerequisite: Evolutionary Anthropology 101. Instructor: Williams. One course.
236L. The Primate Skeleton. NS, R
The osteology of modern and fossil primates. Focus on skeletal anatomy relevant to primate evolution. Primate systematics, the anatomy of bone, the primate fossil record, and the comparative method. Prerequisite: Evolutionary Anthropology 101. Instructor: Williams. One course.

240S. Partnering and Parenting: An Interdisciplinary Approach to the Study of Human Relationships. CCI, E1, NS, SS, STS
Examines current patterns of human mating and family dynamics across cultures from interdisciplinary perspective. Using guest lectures from natural sciences, social sciences and humanities, field exercises, problem solving assignments students apply biological, societal and institutional knowledge and methods to address questions in three main areas: 1) how much does biology determine mating and parenting behavior? 2) How much do institutions determine mating and parenting behavior? 3) Can anyone be a "good" mate or "good" parent? Each section is tied to ethical questions such as "should governments define what it means to be a good parent?" Problem-centric approach will guide discussion. Instructor: Hare, Shannahan. One course. C-L: Sociology 216S, Study of Ethics 272S

246. Sociobiology. NS, STS
Sociobiological theory reviewed and applied to the social behavior of non-human animals, hominids, and humans; the evolution of altruism, cooperation, competition, mating strategies, parental care and morality. Prerequisite: Evolutionary Anthropology 101 or Biology 102L. Instructor: Digby. One course.

253. Primate Ecology. NS, R
The study of ecology using primates as examples. Primate diversity and biogeography; dietary specializations, use of space; plant-animal interactions, community ecology; the concept of the niche and methods used in ecology. The basics of human ecology and the role of ecology in conservation. Includes occasional labs. Pre-requisite: Evolutionary Anthropology 101 or Biology 102L. Instructor: Digby or staff. One course.

257. Ecology and Adaptation of Hunters and Gatherers. CCI, NS
The ecology of extant and extinct foraging societies; focus on human behavioral solutions to subsistence problems associated with different environments (tropical/neotropical forest, boreal forest, coastal, arctic, grassland/savannah, desert). Topics include edible resource distribution in varied environments and its relationship to mobility and subsistence strategies in modern hunter-gatherers; and the archaeological and fossil evidence for the evolution of human subsistence behavior. Prerequisite: Evolutionary Anthropology 101 or Biology 102L. Instructor: Churchill. One course.

260. Human Cognitive Evolution. NS, SS
Survey of methods/theories used in the study of human cognitive evolution; development of cognition in children; brain damaged patients; cognitive abilities of great apes; paleoanthropology of early and modern humans and evidence for mental abilities and culture; cross-cultural and sex differences in human cognition; genetics and the evolution of cognition. Prerequisite: Evolutionary Anthropology 101 or Psychology 102. Instructor: Hare. One course. C-L: Psychology 255

276. Human Biology. NS, STS
Introduction to human biology from an evolutionary perspective. Biological variability and its genetic and ecological underpinnings, with emphasis on modern variation and adaptation. Discussion of biological and social factors that determine health. Principles of heredity, development, evolution, adaptation, and epidemics presented using examples from a cross cultural perspective. Students develop scientific reasoning skills and examine the role of human biology in society. Impact of major problems facing humanity today, such as population displacement and global warming. Pre-requisite: Evolutionary Anthropology 101 or Biology 102L. Instructor: Staff. One course.

280. Introduction to the Evolution of Human Culture, Behavior, and Institutions. CCI, NS, SS
One course. C-L: see Philosophy 208

330. Human Anatomy and Physiology: An Evolutionary Perspective. NS
Interface between human gross anatomy and physiology from a functional and evolutionary perspective. Systems-based and regional approach that differs from both a standard anatomy and physiology course by examining each system (musculoskeletal, circulatory etc.) and regional units (liver, heart, limb muscles) from a functional stand-point considering their anatomy and their physiological role together. Focus on human anatomy but will consider differences between
humans and other vertebrates to illustrate functional aspects of anatomical structures. Prerequisites: Evolutionary Anthropology 101D or Biology 102; introductory physics recommended. Not open to students who have had Biology 278LA or 329L. Instructor: Schmitt. One course.

333L. The Human Body. NS Human gross anatomy seen from a functional and evolutionary perspective. Laboratory involving study of prospected cadavers and other anatomical preparations. Previous experience in anatomy (e.g., Primate Anatomy or Human Osteology) is recommended but not required. Instructor: Wall or Kay. One course.

334L. Human Osteology. NS An introduction to the basics of human osteological analysis. Identification and siding of all the bones of the human body and the major osteological landmarks on each bone; basics of bone histology, development and growth; and fundamentals of anthropological analysis of human skeletal remains (archeological treatment of burials; determination of gender, populational affinities, stature; paleopathological analysis; medicolegal applications). Prerequisite: Evolutionary Anthropology 101 or Biology 102L. Instructor: Churchill or Staff. One course.

336S. Dance Science: An Evolutionary Approach to Functional Anatomy. ALP, NS, R Human skeletal and muscular anatomy taught from an evolutionary perspective. Focus on anatomy relevant to dancers and other performing artists. Students participate in anatomy laboratories and discussions and conduct original research on topics such as posture, movement, injury. Instructor: Williams. One course. C-L: Dance 377S

341. Primate Sexuality. NS, STS A comparative and integrative study of primate sex and reproduction. The material is presented in three sections: the first focuses on primate social organization, mating systems, and reproductive strategies; the second focuses on the endocrine system and behavioral endocrinology, and; the third focuses on sexual differentiation of morphology, brain and behavior. In each section, this course places human sexuality within the broader context of the primate order. Prerequisites: Evolutionary Anthropology and Anatomy 101D or Biology 102L. Instructor: Drea. One course. C-L: Biology 321

341D. Primate Sexuality. NS, STS A comparative and integrative study of primate sex and reproduction. The material is presented in three sections: the first focuses on primate social organization, mating systems, and reproductive strategies; the second focuses on the endocrine system and behavioral endocrinology, and; the third focuses on sexual differentiation of morphology, brain and behavior. In each section, this course places human sexuality within the broader context of the primate order. Note: course is the same as Evolutionary Anthropology 341 but with an additional required 50 minute discussion. Prerequisites: Evolutionary Anthropology 101D or Biology 102L. Instructor: Drea. One course. C-L: Biology 321D

344L. Primate Field Biology. NS, R, W Survey of field methods used to document primate behavior. Laboratory includes observations of free-ranging and captive primates at the Duke Lemur Center. Focus on the scientific process; writing of formal research papers. Prerequisite: Evolutionary Anthropology 101 or Biology 102L. Instructor: Digby. One course.


355. Food For Thought: The Biology of Nutrition. NS, R, STS Food as medicine and medicine as food. The medicinal and dangerous properties of fruits, herbs, vegetables, and fungi. How human cultures impact diet (for example, eating disorders/addictive behaviors); how modern technology and non-invasive data collection techniques currently allow for studies of eating patterns, nutrition, ties between diet and society in terms of historical and evolutionary perspectives. Instructor: Glander. One course.

359S. Primate Conservation. EI, NS, STS Concepts, practice, and ethics of conservation biology, both at the species and community level. Relevant aspects of biogeography, ecology, behavior and demography; human impact (deforestation, hunting); conservation strategies/policies (objectives, design of protected area networks, impact on local human populations). Impact of cultural, political, ethical considerations on primate conservation. Evolutionary Anthropology 101 recommended. Instructor: Staff. One course.
363S. Evolution of Primate Social Cognition. NS, R Social life of primates, with a focus on cognitive implications of social complexity. Primary emphasis on how social organization and social behavior influence the acquisition, expression, and transmission of information or knowledge. Topics include: tool use and causality; discrimination and insight learning; social influences on learning (for example, facilitation, inhibition, observation, imitation); knowledge of the social domain (individual recognition, kinship, hierarchies); coalitions, alliances, cooperation, and reciprocity; social conflict and reconciliation; traditions and cultural transmission; vocal and gestural communication; tactical deception and social manipulation; visual monitoring; intentionality; and instruction. Instructor: Drea. One course.

381. Biometry. QS Introductory course covering univariate and bivariate statistics as applied in biological anthropology; characteristics of populations and variables; parametric statistical methods emphasized. Not open to students who have taken another 200+ level statistics course. Instructor: Wall. One course.

390. Current Issues in Evolutionary Anthropology. NS Selected topics in methodology, theory, or area. Instructor: Staff. One course.


390L. Current Topics in Evolutionary Anthropology. NS Same as Evolutionary Anthropology 390 except in laboratory format. Instructor: Staff. One course.

390S. Current Topics in Evolutionary Anthropology. NS Same as Evolutionary Anthropology 390 except in seminar format. Instructor: Staff. One course.

391. Independent Study. Directed reading, tutorial, or individual project in Evolutionary Anthropology, under the supervision of a faculty member, resulting in a substantive paper or other approved product. Open only to qualified students, who, before being given permission to register, must submit to the faculty advisor a written proposal outlining the area of study and listing course goals and meeting schedule. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to qualified students, who, before being given permission to register, must submit to the faculty advisor a written proposal outlining the area of study and listing the goals and meeting schedule. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

431S. Human Embryology. NS, STS One course. C-L: see Biology 431S

460. Research in Cognitive Evolution. R Research and readings in cognitive evolution and anthropology. Students are expected to formulate research questions, develop research protocols, collect and analyze data; participation in group discussions. Instructor: Hare. One course.

514. Genomic Perspectives on Human Evolution. NS, R, STS, W One course. C-L: see Biology 554; also C-L: Genome Sciences and Policy

520. The Primate Fossil Record. NS A survey of fossil primates including early humans. The diversity, anatomy, and behavior of primates as related to the origin and spread of past primates. The radiation of each main group of primates in the succession leading to humans illustrated with slides, casts, and fossils. Topics include geochemical dating, timing of molecular clocks, and various procedures for classifying primates. Prerequisite: Evolutionary Anthropology 101 and 200 or 300-level paleontology or anatomy course. Instructor: Simons or Staff. One course.

522. The Hominid Fossil Record. NS Origin and successive stages of development of human ancestors. Detailed analysis of adaptive types and cultural developments. Personalities and current controversies in the study of hominid paleontology. Prerequisite: Evolutionary Anthropology 101 and 220, or consent of instructor. Instructor: Simons or Staff. One course.
530. Human Functional Anatomy. NS Basics of functional morphology (including elementary biomechanics), an overview of connective tissue structure and mechanics, and a systematic overview (from head to toe) of human anatomy from a functional perspective. Emphasis on connective and other tissues involved in functioning of the musculoskeletal system (primarily bone, cartilage, tendons, ligaments, and muscle). Prerequisite: Evolutionary Anthropology 101 and 333L or 334L. Instructor: Churchill. One course.

534L. Advanced Human Osteology. NS, R Advanced laboratory techniques for human osteological analysis; identification and sizing of fragmented skeletal elements and teeth; differences between human and non-human bone; biomechanical analysis, functional morphology, hominin osteology; case studies of human skeletons used to produce written skeletal report. Pre-requisite: 100-level course in osteology or general anatomy. Instructor: Staff. One course.

537S. Orthopedic Biomechanics. NS, R Seminar discussions and research addressing fundamental theoretical and practical aspects of clinical biomechanics of the human musculoskeletal system. Readings from primary literature will be assessed in class along with proposals for future research. Students will select a research question, develop an appropriate data collection protocol and collect preliminary data, the results of which are presented to the class as part of a formal poster presentation. Prerequisites: Evolutionary Anthropology 101, Physics 141L and 200 or 300-level anatomy course. Instructor: Schmitt. One course.

544L. Methods in Primate Field Ecology. NS, R Survey of field methods used in the study of primate ecology, including habitat assessment, mapping, and behavioral observations using computer technology. Laboratory includes observations of primates at the Duke Lemur Center. Prerequisite: Evolutionary Anthropology 101; 200 or 300-level behavior or ecology course. Instructor: Glander. One course.

546S. Primate Social Evolution. NS, R Ecological determinants of, and biological constraints on, social strategies and systems, with an emphasis on primates. Prerequisite: Evolutionary Anthropology 101 and 200 or 300-level behavior course. Instructor: Pusey. One course.

560S. Primate Cognition. NS Advanced readings and discussion in the evolution of primate cognition. Topics include evolution of social tolerance, communication, cooperation, competition, etc.; role these behaviors play in the evolution of cognitive abilities. Instructor: Hare. One course.

582S. Primate Adaptation. NS A study of primate adaptation from an evolutionary perspective. Topics vary according to student interests but may include history and functional significance of locomotor and feeding adaptations, craniofacial morphology, sense organs, reproductive systems, and language in primates, including humans. Seminar format but, depending on topic, may include laboratory analysis of materials. Prerequisite: 200 or 300-level anatomy or morphology course and consent of instructor. Instructor: Williams. One course.

588S. Macroevolution. NS One course. C-L: see Biology 558S

590L-1. Special Topics Laboratory. NS Special topics in methodology, theory, or area. Consent of instructor required. Instructor: Staff. One course.

590L-2. Special Topics Laboratory. NS Special topics in methodology, theory, or area. Consent of instructor required. Instructor: Staff. One course.

590S. Special Topics. NS Special topics in methodology, theory, or area. Consent of instructor required. Instructor: Staff. One course.

THE MAJOR
For the A.B. Degree
Prerequisite. Evolutionary Anthropology 101 or 101D.
Corequisite. Biology 202L.

Major Requirements. Nine courses are required (not including the above pre- and corequisites) of which eight courses must be 200-level or above and one course must be a capstone course (see pre-approved list in the departmental handbook). One course is required in each of the following areas: 1) human/primate paleontology or anatomy and 2) primate behavior or ecology (see listings in the Handbook for Majors). At least five courses must be taken in Evolutionary Anthropology; up to four courses may be taken in related
departments based on a pre-approved list of electives or with pre-approval by the director of undergraduate studies. One course must be a lab/field experience in Evolutionary Anthropology (research independent study may count toward this requirement). Note that no more than two independent studies may be counted toward the nine courses required. Evolutionary Anthropology offers two optional concentrations (see below).

For the B.S. Degree

Prerequisite. Evolutionary Anthropology 101 or 101D.
Corequisites. Biology 201L and 202L; Chemistry 101DL and 201DL; Mathematics 111; Physics 141L; introductory statistics (any level). Equivalent courses can be approved by the director of undergraduate studies.

Major Requirements. Eight courses numbered 200 or above are required (not including the above pre- and corequisites) of which one course must be a capstone course (see pre-approved list in the Handbook for Majors). One course is required in each of the following areas: 1) human/primate paleontology or anatomy and 2) primate behavior, ecology or cognition (see listings in the Handbook for Majors). At least five courses must be taken in Evolutionary Anthropology; up to three courses may be taken in related departments based on a pre-approved list of electives or as pre-approved by the director of undergraduate studies. One course must be a lab/field experience in Evolutionary Anthropology (research independent study may count toward this requirement). Note that no more than two independent studies may be counted toward the major.

Evolutionary Anthropology offers two optional concentrations.

Areas of Concentration

Students may elect to complete courses representing an in-depth study of a given area within evolutionary anthropology. There are currently two area concentrations available: 1) Anatomy and Paleoanthropology and 2) Behavior, Ecology and Cognition. Concentrations require that three of the five courses in Evolutionary Anthropology (as required by the major) be taken in the area of concentration. Pre-approved courses for each area can be found in the Handbook for Majors.

Departmental Graduation with Distinction

To qualify for the graduation with distinction program, students must have a G.P.A. of 3.0 overall and 3.5 within Evolutionary Anthropology. To earn distinction, students typically spend one year conducting independent research with a faculty mentor and writing a substantial senior thesis. Students must be enrolled in an independent study course within Evolutionary Anthropology. Exceptions must be approved by the Director of Undergraduate Studies. Students must submit a brief (one- to two-paragraph) description of the honors project, the names of the faculty comprising the examination committee, and the signature of the student’s faculty mentor to the Director of Undergraduate Studies by the end of the first week of classes of the student’s next-to-last semester (e.g., fall semester for May graduates). The examination committee should consist of three faculty members, at least two of whom are in the Department of Evolutionary Anthropology.

THE MINOR

Requirements. Evolutionary Anthropology 101 or 101D; one course in primate/human paleontology or anatomy; one course in primate behavior or ecology; two elective courses numbered 200 or above in evolutionary anthropology. Approved courses for each of the above subfields are listed in the Handbook for Majors.

Evolutionary Biology

See Biology on page 179.

Film/Video/Digital

See “Arts of the Moving Image (AMI)” on page 152
Focus Program (FOCUS)

The Focus Program offers first-year students a variety of interdisciplinary course clusters in the fall and spring semesters; each cluster is centered on a common theme. For a list of current FOCUS course offerings, please refer to the FOCUS website at http://trinity.duke.edu/focus-program.

195FS. Special Topics in Focus. Forum for discussing and bridging the varied interdisciplinary issues that arise within the individual Focus Program seminars. May include group discussion, readings, guest lectures, film viewings, and other educational activities. Open only to participants in the Focus Program. Satisfactory/Unsatisfactory grading only. Staff: Instructor. Half course.

French

For courses in French, see “Romance Studies (ROMST)” on page 565.

Genetics

See "Genome Sciences and Policy" directly below this paragraph, and see the Program in Genetics and Genomics in “Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates” on page 440, and the information under “Biology (BIOLOGY)” on page 179 about the Biology Major and Minor with a concentration in Genetics.

Genome Sciences and Policy (GENOME)

Professor Willard, Director

A certificate, but not a major, is available in this program.

The Genome Sciences and Policy Certificate Program provides a coherent course of study within the comprehensive scope of the genome sciences and their impact on society. This integrated and interdisciplinary curriculum will enable students from a broad range of disciplines to acquire and apply knowledge and understanding of the Genome Revolution and its continual and growing impact on their distinct fields. Highlighting the different perceptions and approaches taken by various disciplines to the study of genomics, the Genome Sciences and Policy Certificate Program will cultivate the interdisciplinary perspectives necessary to address current and future implications for science, health, and society. The Genome Sciences and Policy Certificate Program will be available to all students at the undergraduate level.

CERTIFICATE REQUIREMENTS

Undergraduate students will be required to complete the following five (5) courses and two research experiences (at least one of which is credit-bearing):

- Genome Sciences and Policy Certificate Program core course Genome 156/Biology 156 or Genome 256 when appropriate; the core courses must be taken by the end of the junior year.
- Three elective courses from Genome Sciences and Genome Ethics/Law/Policy listing (see listing at http://genome.duke.edu/education/undergraduate/academics/genome-certificate/electives/), with at least one course chosen from the Genome Ethics/Law/Policy elective course list and taking into account that no more than three courses for the certificate may originate in any one department.
- Two research experiences consisting of either two semester-long independent study courses or one semester-long independent study course plus one approved summer research experience.
- Genome 498S capstone course to be taken during the spring of the senior year.

No more than two courses that are counted toward this certificate may satisfy the requirements of any major, minor, or other certificate program.

108FS. The Genome and the Internet: Growing Up Together (seminar for Genome Revolution Focus cluster). EI, SS Explore interactions and co-evolution of science, technology, society, and policy through examination of the “genome revolution” and the “internet revolution”: Use history, science, ethics, and policy to examine the unique climate of research and development immediately following WWII. Focus on issues
surrounding the genome revolution, including eugenics and race, ancestry testing, direct-to-consumer genetic testing, and intellectual property. Open only to students in the FOCUS program. One course. Instructor: Cook-Deegan. One course. C-L: Public Policy Studies 183FS

118FS. The Secrets of Life: DNA, Property Rights and Human Identity. EI, NS, SS, STS, W Exploration of DNA and all of its meanings: scientific, cultural, societal, legal, artistic. Course will begin with identification of DNA as genetic material and move forward to the current and future impact of personal genomics and whole-genome sequencing. Writing-intensive. Open only to students in the Focus program. Instructor: Angrist. One course.

128FS. Introduction to Evolutionary Genomics and Analysis Methods. NS, STS Explore the role of genomic analysis from large-scale genomic projects to basic biology and medical research. Learn how to use genomic analysis methods, online tools and resources for biological research--genome sequence alignment, phylogenetic tree construction and database mining. Discover how bioinformatic tools can address questions across disciplines such as anthropology, behavior and neuroscience. Consider how genomics and computational methods broaden our understanding of evolutionary theories and shape future research. Open only to students in the FOCUS program. One course. C-L: Evolutionary Anthropology 118FS

138FS. Synthetic Genomics: Science, Policy and Ethics. EI, NS, SS, STS Explore both the science behind synthetic genomics as well as related policy and ethical issues raised by these new advancements. Begins with examination of science of synthetic genomics, focusing on key experiments, and integrates discussions on policy and ethical issues as the scientific field matured. Readings will include scientific publications, bioethical reports, government reports, and popular press. Instructor: Haga. One course. C-L: Public Policy Studies 184FS, Genome Sciences and Policy

156. Genetics, Genomics, and Society: Implications for the 21st Century. EI, NS, SS, STS One course. C-L: see Biology 156; also C-L: Marine Science and Conservation

159. The Past and Future of the Human Genome. EI, NS, SS, STS One course. C-L: see Biology 159

238S. Influential Scientists and Policy Leaders in Science Policy. SS, STS, W Explores role of scientist and non-scientist policy-makers and elected officials who have substantially shaped U.S. science research and application of scientific discoveries throughout the 20th century from within and outside the federal government. Science policies examined in larger context of political, cultural, and social events. Instructor: Haga. One course. C-L: Public Policy Studies 233S

256. Genome Sciences and Society. EI, NS, SS, STS Parallels Genome 156. Focus on contemporary study of human genome with particular attention given to relationships among structural and functional genomics, genome variation and phenotypic variation. Incorporates discussion of social and policy issues created by the Genome Revolution. Students will develop a final paper addressing the science and societal impact of a genomics topic. Prerequisites: Biology 201L/202L or Biology 210FS or consent of instructor. Instructor: Willard or staff. One course.

258S. Race, Genomics, and Society. EI, NS, SS, STS Integrated analysis of historical and contemporary aspects of ’race and genetics/genomics'. Focus on relevant applications in science, medicine, and society; develop skills required for scientific, sociopolitical, cultural, psychosocial, and ethical evaluation of issues. Topics include: introduction to population genetics/genetic variation; concepts and definitions of race; overview of bioethics; social and political history of race; genomics and health disparities; race, ancestry, and medical practice; genealogy, genetic ancestry, and identity; public perceptions of race and genetics/genomics. Instructor: Royal. One course. C-L: African and African American Studies 261S

290S. Special Topics in Genome Sciences. Topics in genome sciences and policy. Instructor: Staff. One course.

293. Research Independent Study Genome Sciences. R Individual research in a genome sciences topic of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing specific analysis and interpretation of a previously approved topic. Meets the research experience requirement for the Certificate in Genome Sciences & Policy as well as a Research (R) mode of inquiry curriculum requirement. Open to all qualified students with consent of supervising instructor and IGSP Director of Undergraduate Studies. May be repeated. Instructor: Staff. One course.

293-1. Research Independent Study Genome Policy. R Individual research in a genome policy topic of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing specific analysis and interpretation of a previously approved topic. Meets the research experience requirement for the Certificate in Genome Sciences & Policy as well as a Research (R) mode of inquiry curriculum requirement. Open to all qualified students with consent of supervising instructor and IGSP Director of Undergraduate Studies. May be repeated. Instructor: Staff. One course.

294. Research Independent Study Genome Sciences. R Continuation of Genome 293. Individual research in a genome sciences topic of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing specific analysis and interpretation of a previously approved topic. Meets the research experience requirement for the Certificate in Genome Sciences & Policy as well as a Research (R) mode of inquiry curriculum requirement. Open to all qualified students with consent of supervising instructor and IGSP Director of Undergraduate Studies. May be repeated. Instructor: Staff. One course.

294-1. Research Independent Study Genome Policy. R Continuation of Genome 293-1. Individual research in a genome policy topic of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing specific analysis and interpretation of a previously approved topic. Meets the research experience requirement for the Certificate in Genome Sciences & Policy as well as a Research (R) mode of inquiry curriculum requirement. Open to all qualified students with consent of supervising instructor and IGSP Director of Undergraduate Studies. May be repeated. Instructor: Staff. One course.

498S. Genome Sciences and Policy Capstone. EI, NS, R, SS, STS Create and apply knowledge gained through certificate course work and research experiences in an intensive, interdisciplinary, small group setting. Students work in small teams learning to analyze current issues in genome sciences and policy and to consider the issue from scientific, social, and ethical perspectives. Teams will present their research as an oral final project. Open only to graduating seniors in the Genome Sciences and Policy program or by consent of instructor. Instructor: Willard or staff. One course.

PROGRAM COURSES IN OTHER DEPARTMENTS
Genome Ethics/Law/Policy Elective Courses
African and African American Studies
261S. Race, Genomics, and Society
Biology
255. Philosophy of Biology
Information Science and Information Studies
670. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America
Literature
623. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America
Philosophy
195FS. The Human Enhancement Project: Ethical Issues in Genomics
218. Philosophical Issues in Medical Ethics
314. Philosophy of Biology
570. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America
Public Policy Studies
233S. Influential Scientists and Policy Leaders in Science Policy
634. Responsible Genomics
Genome Sciences Elective Courses

**Biology**
- 210FS. Genomes, Biology, and Medicine
- 219. Modern Genetics and Genomics: from Microbes to Mammals
- 311. Systems Biology: An Introduction for the Quantitative Sciences
- 350. Complex Traits and Evolutionary Genetics
- 410S. Advanced Approaches to Genome Science Research
- 413L. Genomics Laboratory
- 417S. Genetic Engineering and Biotechnology
- 554. Genomic Perspectives on Human Evolution
- 567S. Genetic Basis of Behavior

**Biomedical Engineering**
- 561L. Genome Science and Technology Lab (GE, MC)

**Computational Biology and Bioinformatics**
- 520. Genome Tools and Technologies
- 541. Statistical Genetics
- 561L. Genome Science and Technology Lab (GE, MC)
- 662. Computational Systems Biology

**Computer Science**
- 104FS. Introduction to Computational Genomics and Computer Science
- 260. Introduction to Computational Genomics
- 662. Computational Systems Biology

**Evolutionary Anthropology**
- 514. Genomic Perspectives on Human Evolution

**Philosophy**
- 538S. Problems in the Philosophy and Policy of Genomics

**Psychology**
- 657S. Developmental Behavior Genetics (D)
- 681S. Genetics and Environment in Abnormal Behavior

**Statistical Science**
- 504. Statistical Genetics

**University Program in Genetics**
- 786. Complex Traits and Evolutionary Genetics

**SPECIAL TOPICS COURSES OFFERED PERIODICALLY**

**Genome Ethics/Law/Policy Elective Courses**

**Cultural Anthropology**
- 180. Culture and Genomics

**English**
- 173. New Media, Literature, and Genes
- 173. Evolution in Science and Culture

**Environment**
- 298S. Questions in Ecological Genomics
- 298S. Molecular Ecology

**Philosophy**
- 291S. Ethics of Biotechnology Policy
- 291S. Political Philosophy and Public Policy in Genomics
- 95FCS. The Human Enhancement Project: Ethical Issues in Genomics

**Public Policy Studies**
- 81FCS. Social & Political History of Genomics

**Religion**
- 89FCS. American Protestantism, Scientific Progress, National Identity

**Women’s Studies**
- 150S Evolution, Genomics, and Gender

**Writing**
- 20 Genetics and Society: Promise or Peril?
- 20 Defining Our Genes, Ourselves

**Genome Sciences Elective Courses**

**Biology**
- 49S. Biotechnology and the New Genetics
- 194FCS. Genomics, Biology, and Medicine

**Computer Science**
Germanic Languages and Literature (GERMAN)

Professor Donahue, Chair; Assistant Professor Norberg, Director of Undergraduate Studies; Assistant Professor of the Practice Kahnke, Director of the Language Program; Professors Donahue, Pfau, Rasmussen; Associate Professor Morton; Assistant Professors Norberg, Gellen; Professor Emeritus Rolleston; Associate Professor of the Practice Walther; Assistant Professor of the Practice Kahnke; Adjunct Professor Vogt; Adjunct Assistant Professors Keul and Madden; Adjunct Associate Professor of the Practice Wohlfeil

A major or a minor is available in this department.

The department offers courses in German, as well as courses taught in English where no knowledge of German is required. For courses taught in German see the section immediately below. For courses taught in English see the following section, "COURSES TAUGHT IN ENGLISH" on page 334.

COURSES TAUGHT IN GERMAN

29. Advanced Placement in German. One course credit for Advanced Placement in German. One course.

101. First-Year German I. FL First semester of introductory language course. Practice in spoken and written German (speaking, listening, reading, writing); introduction to German culture and society through poems, songs, films, internet, and other authentic materials. Proficiency oriented, communicative approach to language study. Instructor: Staff. One course.

102. First-Year German II. FL Second semester of introductory language course. Practice in spoken and written German, vocabulary building, building cultural awareness. Focus on topics of everyday life in German-speaking countries through stories, poetry, music, video, internet, as well as grounding in basic structures of the German language. Instructor: Staff. One course.

111. Intensive First-Year German. FL Intensive introduction to German language and culture. Combines in one semester the work of German 101-102. Designed for students with some prior knowledge of German. Consent of instructor required. Instructor: Staff. Two courses.

111A. Intensive First-Year German. FL Intensive introduction to German language and culture. Combines in one semester the work of German 101-102. Taught only in the Duke-in-Berlin Fall Semester Program. Instructor: Staff. Two courses.

203. Intermediate German I. CZ, FL Language proficiency and cultural knowledge through topic-oriented syllabus focusing on contemporary German culture and society. Comprehensive review of German grammar, vocabulary building, practice in speaking, reading, and writing skills. Literary and nonliterary texts from a variety of media (books, newspapers, audio, video, film, internet), providing basis for discussion and cultural awareness. Extensive reading includes one longer prose text by a contemporary German, Swiss, or Austrian writer. Prerequisite: German 101-102, 111, or equivalent. Instructor: Staff. One course.

204. Intermediate German II. CZ, FL (See description of German 203 above.) Increased focus on reading, speaking, essay writing. Extensive reading includes one full-length play by a contemporary German, Swiss, or Austrian writer. Prerequisite: German 203, or appropriate placement test score, or consent of instructor. Instructor: Staff. One course.

210. Intermediate Conversation Practice. Develop speaking skills for everyday language interactions, including expressing opinions and formulating arguments. Grade based on participation, vocabulary quizzes, role plays. Prerequisite: German 101 and 102 (or equivalent). Enrollment in German 203 or 204 encouraged but not necessary. Does not satisfy the foreign language requirement, or requirements for German major/minor. Instructor: Staff. Half course.

212. Intensive Intermediate German. CZ, FL Intensive grammar review and further development of reading, listening, speaking, and writing skills through topic-oriented syllabus dealing with contemporary
German culture and society. Authentic texts from a variety of media providing the basis for discussion and cultural awareness. Combines in one semester the work of one year of intermediate German (German 203 and 204.) Prerequisite: German 101-102, 111, or equivalent. Instructor: Staff. Two courses.

212A. Intensive Intermediate German. CZ, FL Intensive grammar review and practice of spoken and written German, combining in one semester the work of one year of intermediate German. Taught only in the Berlin Fall Semester Program. Prerequisite: German 101-102, 111, or equivalent. Instructor: Staff. Two courses.

213A. Intensive Intermediate German for Engineers. CZ, FL Development of German language proficiency (reading, listening, speaking, and writing), with focus on the acquisition of specialized vocabulary in the fields of engineering, technology, mathematics, and other natural science disciplines. Includes investigation of history and culture of Berlin, with focus on major political, economic, social, and cultural developments since the fall of the Wall. Materials from various sources (scientific texts and problem sets, print media, audio/video material). Taught at the Technical University in Berlin. Offered only in the January term of the Duke-in-Berlin spring semester program. Prerequisite: German 102, 111, or equivalent. Instructor: Staff. One course.

220A. Readings in German Literature. ALP, FL Development of written and oral proficiency in German, as well as the vocabulary and analysis tools needed for poetry and short prose. Intended for intermediate language learners beginning to work with German literature. Prerequisite: German 203 or equivalent. Taught in the Duke Summer in Berlin program. One course.

301S. Business German. CCI, FL, SS Introduction to the language of commerce and industry; modes of expression for technology and marketing. Particular attention to cultural differences affecting German-American business transactions. Instructor: Staff. One course.

303AS. Advanced German in Berlin. ALP, CCI, CZ, FL Texts drawn from various media centered largely on contemporary Berlin. Development of written and oral proficiency in German, as well as insight into the cultural and historical aspects of the capital. Intensive practice of sentence structure and expository writing. Prerequisite: German 204 or equivalent. May substitute for German 305S or 306S to fulfill major requirement. Taught only in the Duke Summer in Berlin program. Instructor: Staff. One course.

305S. Advanced German I: Culture and Society. CCI, CZ, FL Development of advanced proficiency in oral and written communication. Expansion and deepening of cultural literacy and interpretive skills by focusing on issues of social, cultural, and political significance in German-speaking countries. Cultural and literary texts from a variety of media and genres analyzed in social and cultural contexts. Intensive work on vocabulary, sentence structure, and patterns of expression. Instructor: Staff. One course.

306S. Advanced German II: Text and Context. ALP, CZ, FL, W Development of advanced German language proficiency, with particular attention to written expression. Emphasis on stylistic variation, complex grammatical structures, and lexical sophistication (vocabulary building). Analysis of authentic texts from a variety of genres will provide the basis for practice in creative, descriptive, narrative, argumentative, and analytical writing. Prerequisite: German 305S or equivalent. Instructor: Staff. One course.

310. Advanced Conversation Practice. Practice speaking in wide array of formal and informal situations. Expand vocabulary and idiomatic speech. Topics include current events, practical needs, German culture, using authentic texts from variety of media and genre. Grade based on participation, quizzes, presentations. Prerequisite: German 204 (or equivalent). Does not satisfy the foreign language requirement, or requirements for German major/minor. Instructor: Staff. Half course.

312AS. Advanced Intensive German Language and Culture. ALP, CCI, CZ, FL, W Development of advanced proficiency with particular emphasis on speaking and writing. Through analysis of literary and nonliterary texts, excursions, museums, films, theater performances, students gain in-depth knowledge of various aspects of German culture and society. Advanced grammar review, vocabulary building, oral presentations, as well as a variety of writing assignments. Taught only in the Berlin program. Prerequisite:
332 Courses and Academic Programs

German 204, 212, 212A, or equivalent. Fulfills major requirement for German 305S and German 306S.

Instructor: Wohlfeil. Two courses.

319A. Advanced Intensive German. CCI, CZ, FL For advanced students to increase all four language skills: comprehension, speaking, reading, and writing. Discussion of current events from a German cultural perspective based on newspaper articles, radio and television reports. Preparation for the German language examination required of all foreign students enrolling at German universities. Equivalent of German 305S or 306S, but offered only in the Berlin semester program. Instructor: Staff. One course.

325A. Current Issues and Trends in Germany, CCI, CZ, FL Topics of social and cultural significance in contemporary Germany, with particular emphasis on media and society. Includes site visits. Offered in the Duke Summer Program in Berlin. Instructor: Staff. One course. C-L: International Comparative Studies

331S. Introduction to German Literature I. ALP, CCI, FL Principal authors, genres, concepts, and works of German literature: Middle Ages to the Baroque. Instructor: Morton or Rasmussen. One course. C-L: Medieval and Renaissance Studies 310S

332S. Introduction to German Literature. ALP, CCI, FL Continuation of German 331S: Enlightenment to the present. Instructor: Donahue, Gellen, Morton, or Norberg. One course.

334S. Projekt Theater: German Theater and Performance. ALP, FL Collaborative and interactive theater course for students of German. Students read, interpret, and stage selected German language plays. Special attention given to reading and oral communication skills, interaction and performance. Instructor: Kahnke. One course.

335S. Introduction to German Drama. ALP, CCI, FL The German theater from Lessing to Brecht and beyond, focusing on the relationship between dramatic form and social, historical, and cultural contexts. Topics may include: the Trauerspiel, Sturm und Drang, expressionism, epic theater, documentary drama. Final project may include performance of a play or scenes from different plays. Instructor: Donahue, Morton, or Walther. One course. C-L: Theater Studies 223S, International Comparative Studies

352AS. Berlin in Literature and Culture. ALP, CCI, FL Literary works of modern German writers; focus on the city of Berlin and its unique cultural and political heritage due to Germany's division from 1945 to 1989. Emphasis on art and architecture of Berlin reflecting both historical trends and political ideologies such as National Socialism and Marxism. Taught only in the Berlin semester program. Instructor: Wohlfeil. One course. C-L: International Comparative Studies


390S. Special Topics in German Literature and Culture. ALP, FL Focus on aspects of German literature and cultural studies. Topics vary. Instructor: Staff. One course.

391. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Open only to qualified juniors and seniors by consent of instructor and director of undergraduate studies. Instructor: Donahue, Morton, Norberg, Rasmussen, or Walther. One course.

402S. German Business/Global Contexts. CCI, FL, SS Current German economic and business debates and events. Germany's position in the global marketplace and ensuing intercultural business encounters. Topics include state of Germany's industry and energy resources, monetary policies and banking systems, environmental concerns, foreign trade, taxes, and the social safety net. Attention to Germany's self-understanding as a "social market economy" and the compatibility of that model with current trends in globalization. Instructor: Staff. One course.
420A. Advanced German Cultural Studies. CZ, FL  Topics vary. Taught in German and only in the Berlin Semester Program. Prerequisite: P.N.d.S. (successful completion of German Language exam administered by the Free University). Instructor: Staff. One course. C-L: International Comparative Studies

426S. Masters of the Modern: Great Writers of the 20th Century. ALP, FL, W  Studies in four giants of twentieth-century German literature: Rilke, Kafka, Mann, and Hesse. May also include short works by Bertolt Brecht and Nobel prize winners Heinrich Böll and Guenter Grass. Defining "world literature" and the shaping of "modern" Western thought by these major literary figures. Readings explore major twentieth-century themes: modernism, totalitarian politics, Eastern spirituality, German identity and the situation of Germany within Europe. Regular written exercises, readings, and discussion in German. Instructor: Donahue, Gellen, or Morton. One course. C-L: International Comparative Studies

435S. Current Issues and Trends in Contemporary Germany. CCI, CZ, FL  Issues and problems of significance in contemporary Germany as a changing nation. The political impact of European integration, the cultural impact of immigration, and the social impact of a globalized economy. Materials drawn from a wide variety of media and genre: newspaper reports, television broadcasts, policy statements, legal documents. Instructor: Norberg. One course.

441S. German Film. ALP, FL  Introduction to innovative German films and important critical texts about film theory and film reception. Emphasis on methods of film analysis and vocabulary. Topics and themes include Myth and Modernity; German Women Filmmakers; Representations of the Holocaust in German Films; National Identity and German Film. Instructor: Gellen. One course. C-L: Arts of the Moving Image 252S, Visual and Media Studies 276S

442S. Freud's Vienna: Experiments in Modernity Around 1900. ALP, CCI, CZ, FL  An interdisciplinary approach to the cultural and political transformations taking place in Vienna around 1900 (art, architecture, literature, psychoanalysis, music). The common contexts and interconnections between writers such as Schnitzler, Hofmannsthal, Musil, and Kraus, Freud's psychoanalysis, Klimt and Schiele's Jugendstil and Expressionist art, the architectural innovations of Wagner, Loos, and the Ringstrasse, and the music of Mahler, R. Strauss, and Schoenberg. Focus on issues such as sexuality, disease, desire, and modernity. The rise of mass politics and modern anti-Semitism. Instructor: Gellen or Norberg. One course. C-L: Visual and Media Studies 279S

444S. Berlin History/Culture. ALP, CZ, FL  A study of Berlin as a unique site of German history and culture, and the focal point of theories of modern metropolitan life. Berlin as the cultural center of the interwar years, the capital of Nazi Germany, the symbol of Cold War division and post-89 reunification. Topics include: the social impact of destruction and restoration; modernist representations of the city in literature, film, and art; the relationship between architecture and collective memory. Taught in German. Instructor: Staff. One course.

446S. Siegfried the Dragon-Slayer: Myth-Making and German Identity. ALP, CZ, FL  Exploration of Siegfried legend across time and media (medieval sculpture and texts; 19th- and 20th-century painting, drama, opera, and film), with attention to its role in the creation of modern German nationhood. Collaborative research using e-learning tools expected. In German. Instructor: Rasmussen. One course.

493. Research Independent Study. R  Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors and seniors by consent of instructor and director of undergraduate studies. Instructor: Donahue, Morton, Norberg, Rasmussen, or Walther. One course.

501. German for Academic Research I.  Introduction to German for the purpose of developing reading and translation skills necessary for pursuing academic research. Assumes no prior knowledge of German. Foundations of German grammar and syntax; emphasis on vocabulary and translations. Selected readings in theory of translation and techniques. Not open for credit to undergraduate students who have taken
Intermediate German (203, 204, 212, or equivalent). Does not count toward the major or minor, or toward the fulfillment of the Foreign Language Requirement. Instructor: Rasmussen. One course.

502. German for Academic Research II. Development and refinement of skills needed to read and translate intermediate to advanced academic German. Texts selected by instructor, with regular opportunities to work on materials related to individual fields/research topics. Selected readings in theory of translation and techniques. Prerequisite: German 501. Not open for credit to undergraduate students who have taken Intermediate German (203, 204, 212, or equivalent). Does not count toward the major or minor, or toward the fulfillment of the Foreign Language Requirement. Instructor: Rasmussen. One course.

610S. Introduction to Medieval German: The Language of the German Middle Ages and Its Literature. ALP, FL, R Basic reading skills in the medieval German language (Middle High German) developed by working with literary texts in their original idiom. Canonical texts such as courtly love poetry (Walther von der Vogelweide), Arthurian romance (Hartmann von Aue, Wolfram), and heroic epic (Nibelungenlied). Understanding manuscript culture, philological inquiry, medieval intellectual practices, relationship between learned Latin culture and educated vernacular cultures. Research paper required. Readings and discussion in German. Instructor: Rasmussen. One course. C-L: Medieval and Renaissance Studies 610S

690. Special Topics in German Literature and Culture. Topics vary by semester. Instructor: Staff. One course.

690S. Special Topics in German Literature and Cultural Studies. ALP, FL Instructor: Staff. One course.

COURSES TAUGHT IN ENGLISH

89S. First-Year Seminar. Topics may vary each semester offered and are described in the First-Year Seminars booklet. Instructor: Staff. One course.

260S. Romance of Arthur. ALP, CZ An exploration of the legend of the Once and Future King, Arthur of Camelot: its roots in Latin chronicles, developments in the Middle Ages, and modern representations in literature and film. Arthurian romance as the vehicle of ideas and ideals about utopia, charismatic leadership, love, and betrayal. Tracing the ways a myth is created, employed and transmitted over centuries by means of textual and historical analysis. Taught in English. Instructor: Rasmussen. One course. C-L: Medieval and Renaissance Studies 224S

261S. The Vikings and Their Literature. ALP, CCI, EI Norse sagas and poetry and the Viking world that they reflect. Viking cultural history and mythology, with special attention to the collision between the Germanic heroic ethic and the "new" Christian ethic and Norse notions of gender and leadership. Taught in English. Instructor: Keul. One course. C-L: Medieval and Renaissance Studies 205S

262. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimm's to Disney. ALP, CCI, CZ German fairy tales of the Romantic era, including both the "literary fairy tales" by known authors and the "folk fairy tales" commonly deemed children's literature. Comparisons to other fairy tale traditions, notably by Perrault and Basile, providing a broader context and perspective. Comparison to the Disney contributions elucidating our own preconceptions and prejudices. Special attention to the literary, feminist, and historical elements of the fairy tale genre. Taught in English. Instructor: Norberg. One course. C-L: Literature 252

264. German Film. ALP, CZ Introduction to German film, film theory, and reception. Emphasis on history and cultural background of films. Topics include Expressionism, Nazi and postwar films, New German cinema, DEFA. Films subtitled; readings and discussion in English. Instructor: Gellen. One course. C-L: Visual and Media Studies 280, Arts of the Moving Image

264D. German Film. ALP, CZ Introduction to German film, film theory, and reception. Emphasis on history and cultural background of films. Topics include Expressionism, Nazi and postwar films, New German cinema, DEFA. Films subtitled, readings and discussions in English. Instructor: Gellen. One course. C-L: Arts of the Moving Image 252D, Visual and Media Studies 280D
284. Poetics of Murder. ALP, CCI The literature and film of crime and detection in the American, British, and German context. An examination of our fascination with stories about violence and death, as well as the connections between modern social history and narrative form. Includes interpretations of central works in crime fiction history: stories by Poe and Schiller, detective novels by Agatha Christie and Raymond Chandler, the thrillers of Fritz Lang, and postmodern tales by Eco, Auster, and Süskind. Taught in English. Instructor: Donahue or Gellen. One course. C-L: Literature 344

288. German Way of War. CCI, CZ, EI, SS One course. C-L: see History 288

320A. Environmental Policy in Europe: Duke in Berlin. CCI, SS One course. C-L: see Political Science 295A; also C-L: Public Policy Studies 201A, International Comparative Studies

321A. Economics of a United Europe. CCI, SS One course. C-L: see Economics 260A; also C-L: International Comparative Studies

322A. Berlin: Architecture, Art and the City, 1871-Present. ALP, CCI, CZ Development of urban Berlin from the Gruenderzeit (the Boom Years) of the 1870s to the present: architecture of Imperial Berlin; the Weimar and Nazi periods; post World War II; reconstruction as a reunified city. The major architectural movements from late historicism to postmodernism. (Taught only in the Duke-in-Berlin Program.) Instructor: Neckenig. One course. C-L: Art History 296A, International Comparative Studies

363. Movies of the World/The World of Movies. ALP, CCI, STS One course. C-L: see Literature 313; also C-L: Russian 384, Arts of the Moving Image 248

365A. Art and Architecture of Berlin, Fifteenth to the Twentieth Century. ALP, CCI, CZ One course. C-L: see Art History 297A


367A. Jewish Berlin. ALP, CCI, CZ, EI Overview of German Jewish history and culture, sampling documents, literature, and art from the Enlightenment to the present day. Excursions to Berlin sites, including the Berlin Jewish Museum, Sachsenhausen concentration camp, and the Grünewald Deportation Memorial. Meetings with Jewish cultural leaders and attendance at a service at one of the Berlin synagogues. Taught in English only in the Duke Summer in Berlin program. Instructor: Donahue. One course. C-L: Jewish Studies 367A, Literature 367A, International Comparative Studies

368. German Jewish Culture from the Enlightenment to the Present. ALP, CCI, CZ Key texts (literary, philosophical, and political) from the Enlightenment (18th cent.); periods of emancipation and assimilation, and rising political anti-Semitism (19th cent.); as well as Weimar, Nazi, and postwar periods (20th cent.). Authors include Moses Mendelssohn, Lessing, Franzos, Droste-Hülshoff, Marx, Schnitzler, as well as contemporaries such as Korn, Broder, and Biller. Taught in English. Instructor: Donahue. One course. C-L: Jewish Studies 368, Jewish Studies 368

370. The Devil's Pact: Faust and the Faust Tradition. ALP, CCI, EI Selling souls to the Devil, from England's Christopher Marlowe to Germany's Goethe and beyond. Wrestling with the problem of evil, and getting past it, to the problems of knowledge, experience, and redemption, exploring why the Faust story keeps on being retold. Readings and discussion in English. Instructor: Morton. One course. C-L: Medieval and Renaissance Studies 345, Literature 240, Ethics Courses Offered Through Other Departments

375. Classics of Western Civilization: The German Tradition, 1750-1930. ALP, CCI, CZ Introduction to German intellectual traditions that have proven highly influential both within Europe and beyond. Readings typically include Lessing, Moses Mendelssohn, Kant, Goethe, Humboldt, Hegel, Heine, Marx, Nietzsche, Freud, and Benjamin. Readings and discussions in English. Instructor: Pfau. One course. C-L: History 268, Political Science 375, Literature 247
376. Secularization and Modernity: Cross-Disciplinary Readings 1750-1914. ALP, CCI, CZ, EI, R One course. C-L: see English 285; also C-L: Sociology 348, Political Science 374, Romance Studies 360, Literature 243


380D. Marx, Nietzsche, Freud. CCI, CZ, EI, SS Three principle sources of the twentieth (and now twenty-first) century: the insistence on an ultimate convergence of (revolutionary) theory and practice; the phenomenon of nihilism and the challenge of overcoming it; the exploration of the hidden foundations of the self and of culture. A critical examination and assessment of the thought of Marx, Nietzsche, and Freud. One course. C-L: Philosophy 286D, Literature 280D, Political Science 378D


386. Existentialist Cinema. ALP, CCI, CZ, EI, STS Distinctively cinematic engagements with principal themes in the existentialist tradition: isolation and alienation, identity and commitment, perception and reality, communication and contact, madness and sanity. In-depth exploration of culturally specific filmic modes of capturing, processing, and transmitting images of human life and the myriad issues, moral conflicts, and dilemmas that inform it. Films to be considered will vary with different offerings of the course, but may include works of directors such as Herzog, Schloendorff, Fassbinder, Wenders, Bergman, Antonioni, Kurosawa, and Godard, among others. Instructor: Morton. One course. C-L: Theater Studies 372, Literature 218, Visual and Media Studies 283, Arts of the Moving Image 267, Arts of the Moving Image

387. Germany Confronts Nazism and the Holocaust. ALP, CCI, CZ, EI The ways in which official German culture comes to terms with its Nazi past. Background reading in history and politics; primary focus on films, dramas, novels, and poetry, as well as public memorials, monuments, and museums. Authors treated include: Wolfgang Borchert, Rolf Hochhuth, Peter Weiss, Ruth Klüger. Taught in English. Instructor: Donahue. One course. C-L: Jewish Studies 369, Literature 369, International Comparative Studies

390-1. Special Topics in German Studies. ALP, CZ Aspects of German culture and civilization. Topics vary. Taught in English. Instructor: Staff. One course.

390S-1. Special Topics in German Studies. ALP Aspects of German culture and civilization. Topics vary. Taught in English. Instructor: Staff. One course.

499S. Seminar in German Studies. CCI, CZ, R Review of current debates and historical perspectives in the German cultural field, structured through contributing disciplines: social and economic history, political theory and history, literature, fine arts, music, philosophy, and religion. Team-taught, involving a wide range of faculty in the German Studies Program. Taught in English. Instructor: Donahue, Rolleston, and staff. One course.
511S. Theory and Practice of Literary Translation. ALP, CCI, W One course. C-L: see Literature 640S; also C-L: Islamic Studies

532S. Fin-de-siècle and Interwar Vienna: Politics, Society, and Culture. CCI, CZ, R, SS One course. C-L: see History 532S

560. History of the German Language. Phonology, morphology, and syntax of German from the beginnings to the present. Instructor: Keul or Rasmussen. One course. C-L: Medieval and Renaissance Studies 607, Linguistics 560


575S. Hegel's Political Philosophy. EI, R, SS One course. C-L: see Political Science 676S; also C-L: Philosophy 536S

576S. Nietzsche's Political Philosophy. CZ, EI, SS One course. C-L: see Political Science 577S; also C-L: Philosophy 537S


586S. Literary Guide to Italy. ALP, CCI, CZ One course. C-L: see Italian 586S; also C-L: Language 542S, Arts of the Moving Image 640S

590S. Special Topics in German Studies. ALP Special topics in German literature and cultural studies. Taught in English. Instructor: Staff. One course.

THE MAJOR

Students majoring in German develop language skills in their social and cultural contexts. The combination of linguistic and cultural competency is excellent preparation for a variety of professional careers in business, government, engineering, law, education, and academia. Double (second) majors are also encouraged and supported. Numerous opportunities are available, including global education programs, interdisciplinary programs, Fulbright and German Academic Exchange Service (DAAD) scholarships, and internships, both before and after graduation. Students interested in a major should consult the Director of Undergraduate Studies.

The German major offers two concentrations.

1. Literature and Culture

The emphasis of this concentration is on the development of superior language proficiency and a deep knowledge of the literature and culture of German-speaking lands.

Requirements. Ten departmental courses at the 200 level or above, including cross-listed courses taught in the Duke-in-Berlin programs (see note below). Nine of the ten courses must be taught in German. These normally include the advanced language and culture courses, German 305S and 306S (or the equivalents taught in Berlin: German 303AS, one course credit, or German 312AS, two course credits) and German 322S, Introduction to Literature and Culture.

Note: All Duke-in-Berlin courses taught in German at the 200 level or above, semester and summer, may count toward this major concentration.

2. German Studies

This is an interdisciplinary concentration that develops language proficiency and cultural knowledge, while allowing extra-departmental courses with a substantial German component in related disciplines, such
as history, political science, music, art history, philosophy, economics, theater studies, women’s studies, and religion.

Requirements. Ten courses at the 200 level or above. These may include up to four courses with German content taught in English, either in the German department or in other departments, provided such courses evince a clear focus on German culture, society, and history. Courses taught in German normally include the advanced language and culture courses, German 305S and 306S (or the equivalents taught in Berlin: German 303AS, one course credit, or German 312AS, two course credits), and German 435S, Current Issues and Trends.

Note: All Duke-in-Berlin courses at the 200 level or above, semester and summer, may count toward this major concentration.

Departmental Graduation with Distinction

Qualified students (see the section on honors in this bulletin) may apply or be invited to apply for graduation with distinction. The application deadline is preregistration for the fall semester of the senior year. Further information may be obtained from the Director of Undergraduate Studies.

THE MINOR

Requirements. Five courses at the 200 level or above only one of which may be taught in English.

Note: All Duke-in-Berlin courses at the 200 level or above, semester and summer, may count toward the German minor.

Global Health (GLHLTH)

Associate Professor of the Practice Broverman, Director

A certificate, but not a major, is available in this program.

The Global Health Certificate Program is an interdisciplinary certificate that aims to provide future leaders with tools both to synthesize current knowledge in new ways and to formulate innovative solution to achieve improvement in the quality of health for underserved populations. These individuals will make a significant contribution to the current challenges facing the world today, as the certificate program will capitalize on Duke's diverse strengths in medicine, law, nursing, and business, as well as its broad arts and sciences base. Specifically, the goals of the certificate program are: 1) to develop an integrated course of study that focuses on the comprehensive nature of global health, drawing on the research and experience of Duke University and Medical Center faculty; 2) to provide students with the theoretical understanding of the determinants of health through their exposure to a variety of disciplines; 3) to develop students' analytical skills, enabling them to apply the knowledge arising from each of these fields towards global health solutions both in an empirical manner and in a mandatory field experience, addressing health disparities first-hand; and 4) to prepare students for a future in which they influence research and policy surrounding global health.

The program draws upon established research programs relating to global health centered in anthropology, biology, economics, history, law, medicine, philosophy, political science, psychology, public policy, religion, and sociology.

CERTIFICATE REQUIREMENTS

To meet the requirements of the certificate students must complete the prescribed combination of six courses:

• Public Policy Studies 329, Multidisciplinary Approaches to Global Health (introductory course)
• One course in Ethics from the list below of approved courses
• Global Health 371, Research Methods in Global Health
• Two elective courses from the list below of approved courses
• Capstone Research Seminar in Global Health

Students will also be required to complete a fieldwork experience, approved by the Director of the Global Health Certificate Program. No more than three of the six courses taken to satisfy the requirements of
the certificate may originate in a single department or program; moreover, no more than two courses used to satisfy Global Health Certificate requirements may also be used to satisfy the requirements of any major, minor, or other certificate program. Appropriate courses may come from the list given below or may include other courses (new courses, special topics courses, and independent study) as approved by the director.

GLOBAL HEALTH COURSES

160FS. Gender, Poverty, and Health. EI, SS One course. C-L: see Sociology 186FS

161. Introduction to Global Health. SS, STS One course. C-L: see Public Policy Studies 166

170FS. Special Topics in Focus. Focus course. Topics vary depending on semester and section. Topics may include: global health ethics, field methods, health technologies, rapid needs assessment, global health policies, and interdisciplinary global health topics. Instructor: Staff. One course.

171FS. Vulnerable Populations & Global Health. CCI, SS Examines populations made vulnerable to health disparities due to social, economic, institutional, gender & political factors. Explores: what constitutes a vulnerable population; how the biopsychosocial model elucidates vulnerability as determinant of health; how complex interaction of agency & constraint contribute to GH disparities of vulnerable populations; special considerations for interventions which vulnerable populations require; role of social justice & human rights in GH; lessons from experiences of vulnerable populations on improving GH outcomes. Open only to students in the Focus Program. Instructor: Boyd. One course.

210. Global Health Ethics: Interdisciplinary Perspectives. EI, SS Ethical issues of conducting research on or working with marginalized/stigmatized populations, using theoretical frameworks and case studies. Investigations of ethical choices made by multinational, national and local policymakers, clinicians and researchers, and their impact on individuals, families and communities. Emphasis on working with community partners to develop needs assessment programs. Topics include: differential standards of care; protection of human subjects; access to essential medicines; genetic information and confidentiality; pharmaceutical development; health information technology; placebo controlled trials; best outcomes vs distributive justice. Requires a background in Global Health. Instructor: Whetten. One course. C-L: Public Policy Studies 330

212. Gender, Poverty, and Health. SS Examines interconnections among gender, poverty, and health. Adopts a global perspective with focus on US and resource poor countries. Discusses frameworks for understanding health as well as in depth case studies of particular health areas. Major focus on HIV/AIDS. Instructor: Blankenship. One course. C-L: Sociology 212

261. Media and Health Communication. SS One course. C-L: see Psychology 211

301. Indigenous Medicine and Global Health. CCI, SS Explores indigenous medicine's role in global health and focuses on four interrelated topics: basic medical paradigms and practices, access and utilization in different regions, cross-cultural health delivery, and the complexities of medical pluralism. Course themes will be explored through lecture, discussion, small group case analyses, comparative analytical exercises, and workshops. Instructor: Boyd. One course. C-L: Cultural Anthropology 247

321. Medical Anthropology. EI, SS, STS, W One course. C-L: see Cultural Anthropology 424

321T. Medical Anthropology. CCI, EI, SS, STS One course. C-L: see Cultural Anthropology 424T

332. Global Health Supply, Organization, and Financing. QS One course. C-L: see Economics 246

340. Social Determinants of U.S. Health Disparities. SS One course. C-L: see Sociology 361

351. Global Health and International Development in the Nonprofit Sector. CCI, SS Explore issues of global health and international development work in the non-profit sector. Topics include, delivery of culturally appropriate global health assistance to low resource countries, challenges in working in developing countries, different approaches to development work, management principles of non-governmental organizations (NGO's), and monitoring and evaluation of global health program outcomes. Topics will be explored through lecture, discussion and small group work. Final class presentation and paper will focus on
developing a case study centered on a select global health problem and the non-profit organization(s) approach to delivering health care solutions. Instructor: Walmer. One course.

361. Behavior, Biases, and Interventions in Global Health. CCI, R, SS Apply multidisciplinary social science research to global health issues. Examine how people think, the cultural, contextual, and cognitive influences to health behavior and decisions, and the influences behind the acceptance or rejection of different interventions. Discuss current global health issues. Explore how to change small details of intervention programs to make them more effective. Investigate ways to effectively address barriers to health promotion. Instructor: Ariely. One course. C-L: Psychology 210

362. Introduction to Epidemiology Focus on Global Health. SS, STS Introduction to main concepts and methods used in population-based epidemiology research. Topics include measures of disease frequency, study design, measures of association, and problems of bias, especially as they pertain to global health research. Students will learn to understand and evaluate epidemiological studies. A prior quantitative course highly recommended. Instructor: Maselko. One course.

371. Research Methods in Global Health. R, SS Introduction to research methods through examination of a variety of methodological techniques in behavioral and social sciences and relevant to multidisciplinary GH research. Problem-based approach to practice identifying GH questions of interest, ways to operationalize and test them, including strengths and weaknesses of different approaches. Focus on discussing current GH issues, exploring questions and solutions, reading and evaluating published research and interpreting results. Skills include identification of global health problems, awareness of contextual, behavioral, and ethical issues involved, conceptualization of research questions, and designing a research study. Instructor: Meade or Ariely. One course. C-L: Psychology 309

380A. Research Practicum in Tropical Medicine and Public Health in Costa Rica. R, SS Introduces students to research design, field methods, and basic data analysis in a tropical context. Skills include hypothesis testing and statistical analysis, orientation to basic software packages, write and present scientific papers, and design and conduct epidemiologic research. Instructor: Benavides. One course.

382A. Global Health Issues in South Africa. CCI, EI, SS Integrates classroom & field instruction, introduce students to the fundamental principles of public health in South Africa. Focus on three major themes: primary health care in South Africa, the impact of HIV/AIDS & the role of traditional healers. An emerging third world economy, South Africa is characterized by a blend of first & third world societies, & is an ideal location to study the dynamics of the three major themes in deep rural, peri-urban & urban communities. Lectures & field trips; Ethical debates on controversy surrounding management & treatment of AIDS in RSA & role of traditional healers in mainstream medicine; Independent research. Part of the OTS program in South Africa. Instructor: Müller. One course.

383A. Tropical Medicine and Public Health in Costa Rica. EI, NS, SS, STS Part of a 15-week semester abroad program in Costa Rica (through OTS). Integrates classroom and field instruction to introduce fundamental principles of tropical medicine and public health including the tropical environment and its related health issues; topics include infectious diseases, epidemiology, virology, zoonosis, sexual health, environmental and global health, traditional and alternative medicine, ethics, and the social and economic determinants that contribute to the expanding impact of infectious diseases. Prerequisites: 1 semester of Biology and 1 year of Spanish or equivalent. Instructor: Benavides. One course.

383AS. Environment, Health, and Development in China. CCI, EI, SS, STS One course. C-L: see Cultural Anthropology 395AS; also C-L: Political Science 299SA, Ethics Courses Offered Through Other Departments

390. Special Topics in Global Health Studies. SS Topics vary depending on semester and section. Topics may include: global health ethics, field methods, health technologies, rapid needs assessment, and global health policies. Instructor: Staff. One course.
390S. Special Topics in Global Health Studies. Topics vary depending on semester and section. Topics may include: global health ethics, field methods, health technologies, rapid needs assessment, and global health policies. Instructor: Staff. One course.

391. Independent Study in Global Health. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in a significant academic product. Open only to qualified juniors and seniors by consent of instructor and director of Global Health Certificate program. Instructor: Staff. One course.

391-1. Independent Study in Global Health. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic. Open only to qualified students by consent of instructor and director of Global Health Certificate program. Instructor: staff. Half course.

393. Research Independent Study in Global Health. Individual research-oriented directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in a significant academic product. Open only to qualified juniors and seniors by consent of instructor and director of Global Health Certificate program. Instructor: Staff. One course.

431. Economics of Global Health. QS, R, SS One course. C-L: see Economics 446


530S. Introductory Demographic Measures and Concepts. SS Introduction to demographic concepts, measures, and techniques. Focus on population change, mortality, morbidity, fertility, marriage, divorce, and migration. Illustration of broader application of demographic measurement and techniques to other aspects of society and population health, such as educational attainment, labor force participation, linkages between mortality, morbidity and disability, and health and mortality differentials. Students will also learn how to apply methods discussed. Instructor: Merli. One course. C-L: Public Policy Studies 532S

531. Applying Economic Analysis for Environmental and Public Health Project Evaluation. R, SS Course considers the importance of economic analysis, or cost-benefit analysis (CBA), for public policy assessments. Specific focus is on health and environmental policy, and the steps in identification/cataloguing, quantification, and monetization of impacts of potential policies and projects. Covers: Economic rationale for CBA; Basic principles for assessing the economic effects of projects; Techniques for valuing health and environmental impacts; Intergenerational/philosophical concerns related to CBA; Social discounting; Risk and uncertainty; Comparisons of CBA with other approaches (i.e. cost effectiveness analysis, multi-objective analysis). Instructor: Jeuland. One course. C-L: Public Policy Studies 607, Environment 563

533S. Water Cooperation and Conflict. R, SS, STS One course. C-L: see Public Policy Studies 580S; also C-L: Environment 543S

538. Global Environmental Health: Economics and Policy. SS, STS One course. C-L: see Environment 538; also C-L: Public Policy Studies 582

540. Global Health Ethics: Interdisciplinary Perspectives. EI, SS Same as Global Health 210 but requires an additional paper; not open to students who have taken Global Health 210. Department consent required. Instructor: Whetten. One course. C-L: Public Policy Studies 638

550. Topics in Population, Health, and Policy. SS, STS One course. C-L: see Public Policy Studies 633; also C-L: Sociology 534

560S. Global Mental Health. CCI, NS, R, SS, STS Examines epidemiology and social context of mental disorders globally. Topics include basic epidemiology of most common mental disorders; challenges with definition & classification of mental disorders; epidemiological methods; mental disorders in the context of HIV/AIDS; disaster/emergency mental health; special populations; approaches to treatment; & barriers to
treatment such as stigma. Course utilizes a social epidemiology perspective; focuses on social, economic, &
cultural determinants & consequences of mental health problems across the lifecourse. Course designed for
graduate students & advanced undergraduates. Prior research methods course recommended. Instructor:
Maselko. One course. C-L: Psychology 611S, Cultural Anthropology 611S

570. Global Health Policy and Policy-Making. SS Introduction to essential global health policy concepts,
understanding of global health policy-making, how policies affect "reality on the ground" in global health and
development. Build critical analytical skills and the ability to translate coursework into broader understanding
of policies and policy-making. Includes lectures, analysis, discussion, readings, case studies. Open to juniors,
seniors, and Master's students pursuing GH certificate or public policy, MSc in GH, SOM third year.
Department consent required. Instructor: Miller. Variable credit. C-L: Public Policy Studies 643

590S. Special Topics in Global Health. Topics vary depending on semester and section. Topics may include:
global health ethics, field methods, health technologies, rapid needs assessment, and global health policies.
Instructor: Staff. One course.

590S-1. Special Topics in Global Health. Topics vary depending on semester and section. Topics may
include: global health ethics, field methods, health technologies, rapid needs assessment, and global health
policies. Instructor: Staff. One course.

593. Research Independent Study in Global Health. R Individual research-oriented directed study in a field
of special interest on a previously approved topic, under the supervision of a faculty member, resulting in a
significant academic product. Open only to qualified juniors and seniors by consent of instructor and director

637S. Population and Environmental Dynamics Influencing Health. NS, SS Course examines population,
health and environment (PHE) dynamics with focus on interactions in developing or transition economies.
Theoretical and empirical approaches governing PHE dynamics from multidisciplinary perspectives,
including geography, public health /epidemiology, demography, and economics. Students will obtain
experience in design and analysis of PHE studies, and epidemiology of vector-born, chronic and enteric

670S. Global Nutrition: Over and Undernutrition in Developing Countries. EI, NS Nutrition problems of
developing countries. Epidemiological, biological, behavioral consequences of both overnutrition (obesity)
and undernutrition (malnutrition). Emphasizes physiology of infectious disease (HIV, TB, malaria, diarrhea)
of children and perinatal health outcomes (fetal loss, low birth weight, HIV transmission, pre-eclampsia) of
women and children. Basic principles of nutrition, physical manifestation of nutritional deficiency, and
anthropometric assessment (body composition). Strong focus on ethical and political issues relevant to
formulation of nutrition policy and programs in developing countries. For graduate students or advanced
undergraduates. Service learning course. Instructor: Neelon. One course.

690. Special Topics in Global Health Studies. SS Topics vary depending on semester and section. Topics
may include: global health ethics, field methods, health technologies, rapid needs assessment, and global health
policies. Instructor: Staff. One course.

ETHICS COURSES (one of the following)
Engineering
350S. Ethics in Professions: Scientific, Personal and Organizational Frameworks
Philosophy
262. Human Rights in Theory and Practice
Political Science
388. Human Rights in Theory and Practice
Public Policy Studies
231. Human Rights in Theory and Practice
330. Global Health Ethics: Interdisciplinary Perspectives

ELECTIVE COURSES (2 of the following)
African and African American Studies
Greek

For courses in Greek, see Classical Studies on page 209.

Health, Wellness, and Physical Education (PHYSEDU)

Associate Professor of the Practice Yakola, Chair; Assistant Professor of the Practice Hampton, Director of Undergraduate Studies; Professors Buehler; Assistant Clinical Professor Alpin; Professor of the Practice Dale; Professor Emeritus LeBar; Instructors Adams, Beguinet, Bowen, Brame, Branson, Daffron, Dobbins, Kaufmann, Leary, King, McCune, McNally, Miller, Moore, Ogilvie, Orr, Rollins, Silar, Spector, Todd, Wasielewski, Welsh, and Wilbourn.

Courses in this program do not count toward distributional requirements.

ACTIVITY COURSES

Each activity course listed below carries a half credit and is given on a satisfactory/unsatisfactory basis. The maximum amount of credit that counts for the undergraduate degree is one full course credit, but additional courses may be taken without credit toward graduation. Students may repeat activity courses.


102. Training x 3. Designed to incorporate training through indoor cycling, swimming, and running, with focus on fitness training through strength and endurance exercise. Introduction to a variety of styles of fitness training at all fitness levels, and assistance with designing individual fitness programs. Prerequisite: ability to swim at an intermediate level recommended. Instructor: Ogilvie. Half course.

103. Indoor cycling. Introduction to indoor cycling as an exercise option for all levels of fitness. Focus on a variety of simulated rides at varying degrees of intensity. Learn proper riding technique, correct bike settings, and appropriate intensity levels for a safe, effective workout. Instructor: Branson or Dobbins. Half course.

104. Circuit Training. Combine strength and cardio training in a variety of settings (weight room, courts, fields, track, etc) to create an efficient and challenging program to develop strength, endurance, flexibility and coordination. Instructor: Branson or Dobbins. Half course.


109. **Cardio-Kickboxing.** A noncontact activity designed to teach self-defense techniques while building the muscular and cardiovascular systems. Instructor: Bowen. Half course.


111. **Core Fitness Training and Meditation.** Designed to develop functional fitness, using core stability training techniques that focus on working deep muscles of the entire torso at once. Develop core strength with exercises on stability ball, medicine ball, and exercise band. Instructor: Bowen. Half course.

113. **Weight Training.** Progressive, cumulative, and measurable physical conditioning. Instructor: Dobbin, McNally, or staff. Half course.

115. **Aquatic Cardio Fitness and Strength Training.** Promote fitness through aqua training. Instructor: Staff. Half course.

116. **Weight Training for Women.** Introduction to basic principles and techniques. Instructor: McNally, Ogilvie, or staff. Half course.

117. **Fitness for Women.** Development of an individualized lifetime physical activity program for women. Emphasis on women's issues in exercise, assessment, application of fitness principles, exercise adherence, and cross training. Instructor: Hampton or staff. Half course.

118. **Personal Trainer Certification.** Preparation to be ACE-certified Personal Trainer. Review of knowledge and skills needed to design and implement personalized fitness programs for yourself or for paying personal training clients. Instructor: Dobbins or McNally. Half course.

119. **Group Fitness Instructor Certification.** Preparation to be an ACE-certified Group Fitness Instructor. Review of knowledge and skills needed to design and instruct a variety of group fitness formats. Instructor: Wright. Half course.

121. **Women's Basketball.** Development of individual and team skills specifically for women. Instructor: Silar. Half course.

122. **Basketball.** Development of individual and team skills. Instructor: Nelson or Welsh. Half course.


125. **Soccer.** Basic soccer skills. Instructor: Amos. Half course.


131. **Beginning Golf.** Instructor: Miller. Half course.


135. **Beginning Swimming.** Propulsion techniques, water safety, introduction to the five basic strokes. Instructor: Adams or McCune. Half course.


137. **Endurance Swimming.** Individualized programs to improve skills and fitness. Instructor: Adams or McCune. Half course.
138. Lifeguard Training. American Red Cross course that prepares an individual to qualify as a lifeguard. Preventative lifeguarding, emergencies, health and sanitation, water rescue and special situations, search and recovery operations, weather and environmental conditions. Instructor: Adams or McCune. Half course.

143. Beginning Tennis. Instructors: Hampton or Staff. Half course.


160. Mixed Martial Arts Training. A high energy workout designed to develop physical fitness while learning realistic self defense, kick boxing, and ground fighting techniques, to provide the student with a wide self defense system. Instructor: Bowen. Half course.


166. Intermediate Tai Chi. Building on fundamentals taught in Physical Education 164 (Physical Education 138). Includes full long form of Chen style Tai Chi, the 78-count "Laojia." Instructor: Kaufmann. Half course.

167. Short Staff Aikijutsu. Basic principles and movements with short staff; foundational movements of Aikijo through study and practice of short and long forms. Instructor: Kaufmann. Half course.

170. Yoga. Traditional hatha yoga combined with balanced structural alignment to develop strength, flexibility, and mental concentration. Instructor: Orr or Spector. Half course.

171. Intermediate Yoga. Building on previous hatha yoga experience to deepen student's practice, level of mindfulness, and understanding of philosophy relevant to experiential work with the goals of improved flexibility, strength, balance, concentration, and calmness. Prerequisites: Physical Education 170 or previous hatha yoga experience. Instructors: Orr or Spector. Half course.
172. **Massage Therapy.** Emphasis on techniques and philosophies of massage therapy which enhance the connection of body, mind, and spirit. Benefits and healing potential. Techniques which can be integrated into a more healthy lifestyle. Instructor: Brame. Half course.

173. **Approaches to Stress Management.** Designed to help students deal effectively with the stress of living and learning at the university. Instructor: Orr. Half course.

177. **Beginning Equitation.** Introduction to horseback riding: basic horsemanship; walk, trot, and canter. Instructor: Rollins. Half course.


180. **Introduction to Outdoor Adventure.** Provides an introduction to basic skills and concepts in a variety of outdoor adventure pursuits. Covers trip planning, menu preparation, cooking, orienteering, navigation, first aid and safety, with emphasis on 'learning by doing'. Focus is on the fundamentals of backcountry camping, with an introduction to climbing, mountain biking, and kayaking. Includes a 1-2 night trip. Instructor: Dexel. Half course.

181. **Beginning Rock Climbing.** Designed for students with minimal or no experience in rock climbing. Includes top rope climbing technique, fitness, rappelling, anchor systems, and other topics. Instructor: Dexel. Half course.

182. **Fly Fishing.** Includes fly tying, casting, methods of fly fishing, knots, and practical techniques. Instructor: Dexel. Half course.

183. **Kayaking.** Basic skills for kayaking in whitewater. Open to juniors and seniors only. Instructor: Leary. Half course.


185. **Introduction to Trip Leading.** Explore topics related to outdoor leadership. Learn the technical skills required to lead backpacking trips. Instructor: Dexel. Half course.


**THEORY COURSES**

Each Theory course listed below carries one course credit. Taking Theory classes does not cancel a student’s ability to take two Activity classes for credit towards their undergraduate degree. Theory classes are general electives.

898. **First-Year Seminar.** Topics vary each semester offered. Instructor: Buehler or Hampton. One course.

192. **Independent Study.** Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic product. Instructor: Staff. One course.


202. **Hot Topics in Health.** Current media hot topics in health and wellness, dispelling myths and assuring accuracies in the field. Focus on sexual health, nutrition, physical fitness, smoking, alcohol, body image, mental health, and more. Instructor: Staff. One course.

204. Women’s Health Issues. Lifetime fitness, nutrition, body image, self esteem, health issues, realistic social norms, and healthy coping mechanisms. Instructor: McNally. One course.


212. Sports Media. Examine the production and consumption of information through various media forms and the impact it has on influencing and shaping the sports industry. Topics include content development and delivery through television, radio, newspaper, and the internet, image shaping through the media, regulatory issues, intellectual property and content, market coverage and current hot topics. Instructor: Moore. One course. C-L: Policy Journalism and Media

220. History and Issues of Sports. Sports from ancient to modern times with an emphasis on sports in America. Not open to students who have taken this course as Health, Physical Education, and Recreation 49S. Instructor: Buehler. One course.


240. Theory and Practice of Coaching. Fundamentals, strategies, and psychology of coaching. Emphasis on basketball, and track and field. Additional topics such as safety and liability, gender equity, the media, regulations, and ethics. Instructor: Welsh. One course.

241. Psychology of Sport and Performance. To provide students with an in-depth view of the theoretical and applied aspects of the psychology of sport and physical activity with an emphasis on performance enhancement. Instructor: Dale. One course.

Hebrew

For courses in Hebrew, see Asian and Middle Eastern Studies on page 161.

Hindi

For courses in Hindi, see Asian and Middle Eastern Studies on page 161.

History (HISTORY)

Professor Martin, Chair; Associate Professor Olcott, Director of Undergraduate Studies; Professors Deutsch, L. Dubois, Edwards, French, Gaspar, Gavins, Ho, Humphreys, Kuniholm, MacLean, Martin, M. Miller, Partner, Ramaswamy, Reddy, and Robisheaux; Associate Professors Balleisen, Bonker, Ewald, Glymph, Hacohen, Huston, Krylova, Lentz-Smith, Mazumdar, Neuschel, Olcott, Peck, Thorne, and Sigal; Assistant Professors, Hall, Malegam, and Stern; Professors Emeriti, Chafe, Davis, Durden, English, Goodwyn, Koonz, Herrup, Holley, Mauskopf, Roland, Scott, Shatzmiller, Thompson, Witt, Wood, and Young; Associate Professor Emeritus Nathans; Adjunct Professors Roberts and Wilson; Adjunct Assistant Professors Jakubs, Morrow, and Troost; Visiting Associate Professors Kaiwar, Y. Miller and Shapiro; Visiting Assistant Professors K. Dubois, Freeman, Hart, and Zanalda; Visiting Scholar G. Lerner
A major or a minor is available in this department.

History courses offer students from all disciplines within the university an opportunity to investigate the past, gain perspective on the present, and improve their critical faculties. History provides an integrating principle for the entire learning process, and students of history gain a sense of human development, an understanding of fundamental and lasting social processes, and a feeling for human interrelatedness. History courses train the mind by improving skills in communicating thought and imagination.

**89S. First-Year Seminar.** Topics vary each semester offered. Instructor: Staff. One course.

**101. Introduction to World History: To 1700.** CCI, CZ, W The beginning and evolution of civilization; major traditions of Eurasia (Greek, Christian European, Indian, Chinese, Islamic); Africans and Native Americans; the European invasion of America; foundations of the European world economy; Europe's preparation for world hegemony. One course. C-L: International Comparative Studies

**102. Introduction to World History: Since 1700.** CCI, CZ Establishment of European political, economic, and cultural hegemony; non-Western responses; the decline of Western hegemony. Instructor: Staff. One course. C-L: International Comparative Studies

**103. Comparative Approaches to Global Issues.** CCI, CZ, SS One course. C-L: see International Comparative Studies 195; also C-L: Cultural Anthropology 195, Political Science 110, Religion 195, Sociology 195, Marxism and Society

**105. Old Worlds/New Histories, 500-1500 CE.** CCI, CZ, SS New approaches to history of the world from ca. 500 to 1500 CE. Examines the world before European hegemony. Topics may include nature of autonomous centers of production around the globe; characteristics of trade, empire, science, technology, and high culture across Asia, the Middle East, Africa and the Americas; diffusion of inventions, ideas, cultures and religions through travel, trade, state and empire building. Readings and films explore diverse cosmopolitan worlds before the coming of modernity. Instructor: Staff. One course. C-L: African and African American Studies 134, Marxism and Society

**111D. Europe to the Eighteenth Century.** CCI, CZ, W Development and world impact of European civilization, critical evaluation of historical interpretations, and investigation of history from primary sources. Instructor: Staff. One course.

**112D. Europe from the Eighteenth Century.** CCI, CZ Development and world impact of European civilization, critical evaluation of historical interpretations, and investigation of history from primary sources. Instructor: Staff. One course.

**116. Renaissance Cultures.** ALP, CCI, CZ One course. C-L: see Medieval and Renaissance Studies 152; also C-L: Art History 152, Italian 381

**117. Early Modern Europe.** CCI, CZ, SS, STS A survey of Europe between approx. 1440-1750 that highlights changes in European society including the end of the Renaissance, the Reformation, the Scientific Revolution and the European encounter with other regions of the world. Instructor: Martin, Neuschel, or Robisheaux. One course.

**121D. American History to 1876.** CZ History of what is now the United States from pre-Columbian times to 1876. Covers exploration, colonization, Native American responses, the rise of race slavery, the American Revolution, Anglo-American expansion, slave life and culture, industrialization, reform, disunion, the Civil War, emancipation, and Reconstruction. Emphasis on social developments, conflicting political and economic visions, and tensions between ideals and reality. Instructor: Staff. One course.

**122D. America from 1877 to the Present.** CZ, EI American history from the end of Reconstruction to the present. The impact of industrialization, immigration, urbanization, and the rise of mass culture in the United States; the effect of depressions and wars on American society and politics; and the roots and results of reform movements ranging from populism and progressivism to the civil rights, women's, and environmental movements. Ongoing debates about the government's proper economic and social role; changing views of ethnicity, race, and gender in America; and the determinants of United States foreign policy. One course.
126S. Introduction to Oral History. CZ, R One course. C-L: see Documentary Studies 110S
128. Introduction to Canada. SS One course. C-L: see Canadian Studies 101; also C-L: Sociology 108
129. Introduction to African Studies. ALP, CCI, CZ One course. C-L: see African and African American Studies 103; also C-L: Cultural Anthropology 105, Political Science 108
131. The Third World and the West I. CCI, CZ First part of a two-course sequence examining economic, social, political, and cultural relationships, 1500 to the present. Topics may vary each semester. Instructor: Staff. One course. C-L: African and African American Studies 131, International Comparative Studies, Latin American Studies, Marxism and Society
152S. Gateway Seminar: History at Sea. CCI, CZ, R, SS, W Maritime history through examination of ships, shipping, and shipboard communities. Topics addressed include shipboard language, labor, rituals, technology, aesthetics, and power, as well as free and forced maritime migrations. Discussion of the ways ships and shipping created the world in which we live. Instructor: Ewald. One course.
153S. Gateway Seminar: Cultural Exchange in Continental Asia. CCI, CZ, R Continental Asian history since early 13th century through examination of cultural exchange among Mongol, Russian, Chinese, Indian, Muslim, and European colonial spheres of influence. Engages eyewitness accounts to provide hands-on experience of historians' craft. Exploration of issues of empire, colonialism, nationalism, globalization, modernity, liberalism, socialism, revolution, war, and religion. Introduction to historical thinking and writing through activities and assignments, including an article-length research project. Not open to students who have taken History 184S/Slavic and Eurasian Studies 184S. Instructor: Tuna. One course. C-L: Asian & Middle Eastern Studies 107S, Slavic and Eurasian Studies 106S
155S. Gateway Seminar: The United States and the Middle East. CCI, CZ, EI, R, SS Historical appraisal of cultural, political, military and economic encounters between Americans and people of the Middle East. Examination of variability and complexity of these encounters, with discussion of fantasies and realities, interests and commitments, influences and fears, wishes and disappointments. Begins with World War I but concentrates on the post World War II period. Instructor: Miller. One course. C-L: Islamic Studies
157S. Gateway Seminar: Empires in Historical Perspective. CCI, CZ, EI, R, SS Study of modern empires in historical comparative-connective perspective. Approaches, methods, themes include social history from below, maritime history, history of technology, debates about the ethicality of war, occupation and regime change in sovereign territories. Final research paper involving intensive primary-source research, extensive use of secondary and on-line sources for the study of empires. Instructor: Kaiwar. One course.
158S. Gateway Seminar: Islam and Nationalism. CCI, CZ, R, SS, W This course offers students an introduction to the history of the 19th- and 20th-century Muslim world, using the lens of the development of different forms of nationalism. We will investigate both the intellectual roots and expressions of various nationalisms, as well as the social and political factors behind popular mobilization. The class will be focused on several case studies, including Egypt, Algeria, India-Pakistan, Iran, Sudan, and Nigeria. Students work will be focused on weekly readings, and on a semester-long research project. Instructor: Hall. One course. C-L: Islamic Studies
164S. Gateway Seminar - Antisemitism: Ethnicity, Race, Religion, Culture. CCI, CZ, EI, R, SS Focuses on selected anti-Judaic and antisemitic episodes from ancient antiquity through modern times, paying attention to both antisemitic texts and events. It evaluates competing theoretical frameworks for understanding antisemitism as ethnic, racial, religious and cultural phenomenon. Can antisemitism be understood as part of
the history of racism or of other forms of ethnic hatred? Why were Jews so often target of hatred? How did both Jews and antisemites view their relations with each other? How do historians understand them? If there is limited continuity among antisemitic episodes, how can the prevalence and repetitiveness of antisemitism be explained? Instructor: Hacohen. One course.

170S. Gateway Seminar: Male and Female Soldiers in the World Wars. CCI, CZ, R The history of women's exclusion and inclusion into armed forces in relation to popular and competing notions of citizenship, national identity, and military service in twentieth century UK, US, Russia, Germany. The female combatant as subject of public debate, private fantasy, state regulations, and military experimentation. Close examination of male and female near-trench and trench-level experiences of combat in the two World Wars. Course materials include firsthand accounts such as memoirs and autobiographical novels and sketches, political treatises, popular literary works, academic articles, excerpts from popular U.S., European, and Russian films. Instructor: Krylova. One course.

174S. Gateway Seminar: Regime Change/U.S. Foreign Policy: Latin America and Beyond. CCI, CZ, EI, R, SS Examines episodes of U.S. intervention abroad that resulted in the overthrow of democratically elected regimes. Focus on Latin America as the primary region of study, but comparative cases are also examined. Consideration of cultural, social, and economic tools of intervention as well as military and diplomatic methods. Students divide into research teams and write histories of four U.S. interventions abroad. Instructor: Olcott. One course.

177S. Gateway Seminar: The Meaning of Freedom in American History. CZ, R, W Focus on American conflicts over the meaning of "freedom" or "liberty." Examination of changing definitions over time, and appraisal of the role that conflicts over "freedom" play in defining American identity and politics in the present. Course readings (mostly primary sources) introduce students to central disputes over meanings of "freedom" in American history, and student papers will also investigate conflicts or ideas about liberty. Instructor: Huston. One course.


181S. Gateway Seminar: Native American History Through Autobiography. CCI, CZ, R, SS, W This course begins to explore history from the point of view of Native Americans. Instructor: Deutsch. One course.

183S. Gateway Seminar: Civil Rights and Asian Americans. CCI, CZ, EI, R, SS Study of crucial legal and political moments in the struggle for equal civil rights of minorities, beginning with the laws of Chinese Exclusion, the struggle to define who was "White," the Asian Immigration Exclusion Acts, the relationships of Asians and African Americans and the struggle for equal schooling in the American South, the Japanese Concentration camps, the Redress and Reparations Civil Rights struggle, and the involvement of Asians Americans in the African American-led Civil Rights Movement in the 1960s, including working with Martin Luther King and Malcolm X, and Asian Americans in the anti-sweatshop unionization movement. Instructor: Mazumdar. One course. C-L: Asian & Middle Eastern Studies 187S, African and African American Studies 133S

190A. Duke-Administered Study Abroad: Special Topics in History. CCI, CZ Topics differ by section. Instructor: Staff. One course.

190FS. Topics in Focus Program. CZ Open only to students in the Focus Program. Current list of courses available in the Focus program brochure. Instructor: Staff. One course.

190S. Gateway Seminar: Topics in History. CZ, R Introduction to historical analysis and research in a seminar setting. Students learn how to formulate research questions, evaluate existing scholarship, interpret historical evidence, craft historical argument orally and in writing. Several sections on different topics are offered each semester. One course.
203. History of Africa: From Antiquity to Early Modern Times. CCI, CZ, SS Civilizations known from archaeological records to the early modern era. Topics include African ecologies and ecological adaptations; Egyptian civilization; dynamics of agrarian and pastoral communities; state formation; long distance trade; Islam; contacts with Europeans. Methodologies and sources for reconstructing Africa's past. Instructor: Ewald. One course. C-L: African and African American Studies 211, International Comparative Studies, Islamic Studies, Women's Studies

204. History and Modern Africa. CCI, CZ, SS Presents the long-term historical dynamics behind three important situations in contemporary Africa. Recent examples include ethnic warfare in Darfur; oil exploitation and environmental degradation in the Niger Delta; misgovernment in Zimbabwe. Topics might change from year to year. The courses aims at helping students become intelligent commentators on contemporary Africa. Instructor: Ewald or Hall. One course. C-L: African and African American Studies 210, International Comparative Studies, Women's Studies


208. South African History, 1870 to the Present. CCI, CZ, EI, SS Overview of South African history from the mining revolution of the 1860s and 70s through the official demise of apartheid in 1994, along with a brief consideration of the challenges facing democratic South Africa. Close attention to the rise and fall of apartheid. Instructor: Shapiro. One course. C-L: Political Science 221, African and African American Studies 214

209. Islam in Central Eurasia. CCI, CZ, SS One course. C-L: see Russian 370; also C-L: Religion 378, International Comparative Studies, Islamic Studies

210. Islamic Civilization I. CCI, CZ, EI One course. C-L: see Religion 375; also C-L: Cultural Anthropology 256, Medieval and Renaissance Studies 268, Information Science and Information Studies, Islamic Studies, Ethics Courses Offered Through Other Departments

211. Islamic Civilization II. CCI, CZ, EI One course. C-L: see Religion 376; also C-L: Cultural Anthropology 257, Medieval and Renaissance Studies 269, International Comparative Studies, Islamic Studies, Ethics Courses Offered Through Other Departments

212. The Turks: From Ottoman Empire to European Union. ALP, CCI, CZ, EI, R One course. C-L: see Turkish 308; also C-L: Religion 228, Asian & Middle Eastern Studies 287, Islamic Studies

213. Representing the Middle East. CCI, CZ, SS One course. C-L: see Cultural Anthropology 251; also C-L: Asian & Middle Eastern Studies 345, Turkish 372, International Comparative Studies 362, Visual and Media Studies 250, Islamic Studies, Policy Journalism and Media Studies

214. The Modern Middle East. CCI, CZ The historical development of the Middle East in the nineteenth and twentieth centuries. The emergence of nation-states in the region following World War I. Instructor: Y. Miller. One course. C-L: Jewish Studies 258, Asian & Middle Eastern Studies 227, International Comparative Studies, Islamic Studies

215S. Shamanism and Spirit Possession. CCI, CZ, EI, R, SS One course. C-L: see Religion 213S; also C-L: Cultural Anthropology 214S
216S. Journey to Eurasia. CCI, CZ, R, SS One course. C-L: see Slavic and Eurasian Studies 373S; also C-L: International Comparative Studies, Islamic Studies

217. Introduction to the Civilizations of Southern Asia. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 255; also C-L: Religion 227, International Comparative Studies

218. Modern & Global India. CCI, CZ, EI, SS, W Examines the historical foundations for the emergence of India as a modern and global society with a focus on the Mughal empire, British colonialism, and Indian nationalism. Uses textual and visual sources for charting how local political, social-economic and cultural factors intersect with the global movements of peoples, goods, technologies, and ideas in the creation of the modern nation-state of India. Time frame from 1500 to 1947. Instructor: Kaiwar or Ramaswamy. One course.

219S. Indian Civilization. CCI, CZ, EI, SS, W Surveys the rise of civilization and kingdoms on the Indian subcontinent from the first urban centers of the Indus Valley through the establishment of the Mughal Empire in the 16th century. Uses literary, archeological, linguistic, ethnological, and inscriptive evidence on the diversity of Indic peoples and their complex social, religious, and caste integration into the major states and empires of premodern India; considers wider civilizational networks and extensions of the Indian cultural sphere into other parts of Asia; integrates a historical and anthropological perspective on various primary materials. Instructor: Freeman. One course. C-L: Cultural Anthropology 215S

220. China from Antiquity to 1400. CCI, CZ Beginning with the early neolithic cultures, focus on the evolution of Han civilization, the formation of the imperial state system in China, ecological adaptations and foundations of the agrarian economy, the coming of Buddhism to China, and China's contacts with other peoples and regions of Asia up to A.D. 1400. Instructor: Mazumdar. One course. C-L: Asian & Middle Eastern Studies 337

221. China and the United States. CCI, CZ, EI Starting with the arrival of Europeans and Americans in China, and moving to the Opium Wars and the Unequal Treaties to WWII, and Hollywood depictions of China, the course focuses on China since 1949 and its relationship to the United States covering themes of the Cold War, Cultural Revolution, Nixon and China and the reengagement of the two countries, Tianan-men to today including the challenges confronting China and its rise as an industrial superpower, and the environmental challenges thereof. Instructor: Mazumdar. One course. C-L: Asian & Middle Eastern Studies 237, International Comparative Studies 221, Marxism and Society

222. Religion in China. CCI, CZ One course. C-L: see Religion 210

224. Themes in Chinese Culture and History. CCI, CZ, SS One course. C-L: see Cultural Anthropology 343A; also C-L: Political Science 298A, International Comparative Studies

225S. Muslim Women Across the Ages. CCI, CZ, SS, W One course. C-L: see Religion 219S; also C-L: Women's Studies 209S, International Comparative Studies 365S, Islamic Studies

226. Ancient and Early Modern Japan. CCI, CZ Japan from earliest settlement to 1868; the Heian Court, rise of the samurai, feudal society and culture, the Tokugawa age, and the Meiji Restoration. Instructor: Partner. One course. C-L: Asian & Middle Eastern Studies 267, International Comparative Studies

227. The Emergence of Modern Japan. CCI, CZ A survey of modern Japanese history from 1850 to the present. Emphasis on social change as experienced by ordinary people. Includes a comparative overview of Japan's experience of modernity. This class is not open to students who have taken History 122A. Instructor: Partner. One course. C-L: Asian & Middle Eastern Studies 269, International Comparative Studies

229. Modern East Asia, 1600-2000. CCI, CZ, SS A broad survey of the modern history of the East Asian region: China, Korea Japan, and their ethnic/political/cultural sub-groups. Explores political, economic, and social interactions within the region and with the world. Critically appraises concepts of ethnic and national identity, nationalism and imperialism, development and modernization. Uses primary historical documents as well as secondary sources. Instructor: Mazumdar, Partner. One course. C-L: Asian & Middle Eastern Studies 207

230. Greek History. CCI, CZ One course. C-L: see Classical Studies 283

352 Courses and Academic Programs
232S. Special Studies in Greek History. CZ One course. C-L: see Classical Studies 324S
233. Roman History. CCI, CZ One course. C-L: see Classical Studies 284
235S. Special Studies in Roman History. CZ One course. C-L: see Classical Studies 328S
236. Ancient Science and Technology. CZ, STS One course. C-L: see Classical Studies 364
237. Cities and City Life in Italy. ALP, CCI, CZ One course. C-L: see Italian 383
238A. Rome: History of the City. ALP, CCI, CZ One course. C-L: see Classical Studies 340A; also C-L: Art History 209A
241. Medieval Cultures. ALP, CCI, CZ One course. C-L: see Medieval and Renaissance Studies 151; also C-L: Art History 121, Classical Studies 121
242. Medieval Christendom, Conflict. CCI, CZ, EI Traces the history of medieval Western Europe through major conflicts based in religious belief, practice, law, and institutions. Topics explored through medieval sources and works of history include Investiture Controversy, Inquisition, Crusade, the Templars, Peace movements, and the Great Schism. Instructor: K. Dubois. One course. C-L: Medieval and Renaissance Studies 257, Religion 354
243. History of the Christian Church. CCI, CZ, EI One course. C-L: see Religion 355; also C-L: Ethics Courses Offered Through Other Departments
244. Medieval Christianity in Film and Fiction. ALP, CCI, CZ, EI One course. C-L: see Religion 261; also C-L: Medieval and Renaissance Studies 354
245. Europe Before The Crusades. CCI, CZ Foundations of European politics and society from 450 to 1000, when imperial Roman religion melded with the world of Goths, Celts and Franks, and custom and conflict sustained law and order. Ideas of Christian empire developed during Charlemagne's reign and manifested in the violence of the First Crusade. Instructor: Malegam. One course. C-L: Medieval and Renaissance Studies 259
246. Medieval Bodies: Sex & Food. CCI, CZ, EI Society in Western Europe ca. 1000-1500. Medieval sexuality (femininities and masculinities) and gender. Social relationships, norms and deviance. Power and structures of authority. Spirituality, religion, theology of sexuality and food, sin and virtue, scientific and medical ideas about the body, food preparation and uses. Instructor: Dubois. One course. C-L: Medieval and Renaissance Studies 256, Women's Studies 219, Study of Sexualities 210
247. British Isles in the Middle Ages. CCI, CZ, EI From the fifth through the fourteenth centuries. Instructor: Morrow. One course. C-L: Medieval and Renaissance Studies 272
249. The Crusades to the Holy Land. CCI, CZ, R The crusades to the Holy Land and other manifestations of European expansionism, for example, the reconquest of Spain and the foundation of a Norman Kingdom in Sicily. Instructor: K. Dubois. One course. C-L: Medieval and Renaissance Studies 262, Jewish Studies 249, Islamic Studies
251. Jewish History, 1492 to the Present. CCI, CZ, EI, SS Major developments in Jewish history from the early modern period to today. The Kehillah, the Spanish-Jewish Diaspora, the rise of Polish Jewry, the Safed Kabbalah, Sabbatianism, the emergence of the Chassidut, the Haskalah (Jewish Enlightenment), Emancipation and the nation state, Reform Judaism, economic modernization, racial antisemitism, Zionism, the Holocaust, the State of Israel, flourishing Jewish pluralism in the United States, the future: nation and Diaspora? Instructor: Hacohen. One course. C-L: Jewish Studies 251, Religion 340, Ethics Courses Offered Through Other Departments
252. History of Medieval and Renaissance Italy. ALP, CZ The history and literature of the first early modern European culture and society. Instructor: Martin, Neuschel, or Robisheaux. One course. C-L: Medieval and Renaissance Studies 277
253. Dante's Divine Comedy: Hell, Purgatory and Paradise. ALP, CCI, CZ, EI One course. C-L: see Italian 481; also C-L: Medieval and Renaissance Studies 450, Religion 262, Literature 245, International Comparative Studies

254. The Expansion of Medieval Europe. CCI, CZ Lecture course follows the transformation of medieval politics, society and culture from the First Crusade to the Reformation. The evolution of secular monarchies and the flourishing of vernacular literature and devotion. The growth of commerce and an urban middle class. New forms of feminine religiosity and fascination with Christ's humanity. Intensified alienation and persecution of marginal groups such as the Jews. Field trip to the local museum. Instructor: Malegam. One course. C-L: Medieval and Renaissance Studies 254

256. The History of the Renaissance in Europe 1250-1550. CZ, W Major developments in art, architecture, humanism, and science in their social and political contexts from the Black Death through the trial of Galileo. Focus on urban and court societies, modes of communication and cultural diffusion, varieties of religious repression, and Europe's shifting relation to the rest of the world. Instructor: Martin. One course. C-L: Medieval and Renaissance Studies 279, International Comparative Studies

257. Reformation Europe. CCI, CZ The interplay of social, economic, and political developments in Central Europe from the eve of the Reformation to the end of the Thirty Years' War, with particular attention to the links between religion, gender, and the social order. Instructors: Neuschel or Robisheaux. One course. C-L: Medieval and Renaissance Studies 281, International Comparative Studies

258. Protestant Traditions. CZ, EI One course. C-L: see Religion 357

259. The Reformation of the Sixteenth Century. CCI, CZ, EI One course. C-L: see Religion 358; also C-L: Medieval and Renaissance Studies 284, Ethics Courses Offered Through Other Departments

260. Magic, Religion, and Science since 1400. CCI, CZ, EI, STS The history of magic and witchcraft in western culture from the Renaissance to the present, with particular attention to the relationship of supernatural beliefs to religion and science. The renewal of magic, astrology, and alchemy in the Renaissance; early modern witch beliefs and the witch hunt; national skepticism in the Enlightenment; modern marginal sciences such as parapsychology; and adaptations of magical beliefs to modern culture in the nineteenth and twentieth centuries. Instructor: Robisheaux. One course. C-L: Medieval and Renaissance Studies 287

262. The History of Romantic Love. ALP, CCI, CZ, EI, W Examines how romantic love has been understood and practiced in the European and North American traditions, from ancient times to the present. Comparison with the Hindu and Japanese traditions to reveal what is unique about Western romantic love. Comparison of art and literature to the practices of real people. Transformations of norms and ideals since ancient times with focus on ethical questions about the permissibility of desire in all its forms, the proper relationship between love and marriage, and the moral status of adultery and jealousy. Instructor: Reddy. One course. C-L: Cultural Anthropology 231

263D. The History of Romantic Love. ALP, CCI, CZ, EI, W Examines how romantic love has been understood and practiced in the European and North American traditions, from ancient times to the present. Comparison with the Hindu and Japanese traditions to reveal what is unique about Western romantic love. Comparison of art and literature to the practices of real people. Transformations of norms and ideals since ancient times with focus on ethical questions about the permissibility of desire in all its forms, the proper relationship between love and marriage, and the moral status of adultery and jealousy. Instructor: Reddy. One course. C-L: Cultural Anthropology 231D

264D. The History of Emotions. CCI, CZ, R, W Codes of conduct aimed at the management, expression, and concealment of emotion over the last thousand years of European history, with a focus on the self, manners, dress, romance, and aggression; comparison of developed Western notion of emotions with configurations of emotional expression and emotional practices in selected other parts of the world: within Islam, the Hindu tradition, Japan, certain postcolonial settings. Not open to students who have taken History 154C or Cultural Anthropology 154. Instructor: Reddy. One course. C-L: Cultural Anthropology 230D
265. **Madness and Society in Historical Perspective.** **CCI, SS, STS** Mental illness and psychiatric treatment from antiquity to the present with special concentration on the nineteenth and twentieth centuries in Europe, America, and Russia. Instructor: M. Miller. One course. C-L: International Comparative Studies

267D. **The Enlightenment: A Social, Cultural, and Intellectual Survey.** **CCI, CZ, W** The period's intellectual trends (the rise of modern science, modern social and political theory, philosophy, and individualism) studied in their original context. Subjects examined include modes of production; political authority; empire; literature, art, and music; fashion and leisure; news, gossip, and scandal; outbreak of revolution. Instructor: Reddy. One course.

268. **Classics of Western Civilization: The German Tradition, 1750-1930.** **ALP, CCI, CZ** One course. C-L: see German 375; also C-L: Political Science 375, Literature 247


270. **Britain and the British Empire in the Age of the American Revolution.** **ALP, CCI, CZ, EI, R** Britain and the wider British world in the eighteenth century. Global warfare; empire in the Atlantic and India; Pacific exploration; Enlightenment thought and science; art, literature, and music; material culture; industrial, commercial, and financial revolutions; politics and the rise of the modern state. Instructor: Stern. One course.

271. **Modern Britain.** **CCI, CZ, W** Introduction to British history in the modern period, eighteenth century through the present. Impact of industrialization and imperial expansion on political culture, social relations of class and gender, and national identity. Imperial comparisons and connections to the British experience. Instructor: Thorne. One course.

273S. **The Spanish Civil War: History, Literature, and Popular Culture.** **ALP, CZ, EI, FL, R** One course. C-L: see Spanish 431S

274D. **Global France.** **ALP, CCI, CZ, EI** One course. C-L: see French 480D; also C-L: Cultural Anthropology 274D

275. **Imperial Russia 1700-1917.** **CCI, CZ, SS** One course. C-L: see Russian 356

276. **From Tsars to Commissars: Russian Cultural History.** **CZ** Medieval origins of the Imperial Russian state, concentrating on the period between the reign of Catherine the Great (1762-1796) and the death of Lenin in 1924. Emphasis on state authority, ruling elites, and the formation of the opposition revolutionary movement leading to the Bolshevik seizure of power in 1917. Instructor: M. Miller. One course. C-L: International Comparative Studies

277. **Tolstoy and the Russian Experience.** **ALP, CCI, CZ, EI** One course. C-L: see Russian 325

278S. **Nationalism and Exile.** **CCI, CZ, R** The dilemmas confronting Russian and European exiles in the nineteenth and twentieth centuries in the context of nation-state identities. Focuses on political and literary exiles forced from their native countries. Central to the study is the role of the modern nation-state, from whose boundaries the exiles were expelled. Instructor: M. Miller. One course.

279. **The Foundations of Modern Terrorism.** **CCI, CZ** A comparative analysis of the origins and development of modern terrorism in the West (Europe, Russia, and the United States). Instructor: M. Miller. One course. C-L: International Comparative Studies

281. **Russian Revolutionary Cinema.** **CCI, CZ** The origins and development of the revolutionary and experimental cinema in Russia during the last years of the Empire and after the seizure of power by the Bolsheviks in 1917. Films include the classics of the silent Soviet cinema directed by Eisenstein as well as other films by other influential directors. The transition into the Stalinist cinema of the 1930s and comparisons with Hollywood films of that era. Instructor: M. Miller. One course. C-L: Russian 381, Arts of the Moving Image 264, Marxism and Society
282. **End of Russian Socialism: History of Perestroika. CCI, CZ, EI, SS** History of the fall of the Soviet Union as interplay between Russia's economic legacy, a sequence of economic and political decisions undertaken by Gorbachev's government in the 1980s, and international forces that influenced Russia's decision to reform; includes exploration of principles and aspirations that informed Soviet socialist economy in theory and practice; traces the restructuring of Soviet economic system into its present-day capitalism a la Russe. Instructor: Krylova. One course. C-L: Russian 352

283. **Putin's Russia: The History of Economic and Political Consolidation. CCI, CZ, EI, SS** Focuses on contemporary Russia. The post-2000 decade examined as aftermath of political and economic turmoil and restructuring of the 1990s and as a period of consolidation of Russia's political and economic systems and business practices. Critically examines functioning of Russia's sovereign democracy, mechanisms of economic crime and corruption, radical political movements, and popular perceptions of democracy, capitalism, market, and the West among Russian citizens. Instructor: Krylova. One course. C-L: Political Science 220, Slavic and Eurasian Studies 382

285. **Western Warfare since 1789. CCI, CZ, SS** European and United States conduct of war since 1789, ranging from the French Revolutionary and Napoleonic wars to the current United States pursuit of war in the Middle East and beyond, Focus on the nature and aims of Western warfare and the practices, languages, and experiences of its participants. The shifting ways in which military force has been used against soldiers and civilians. Instructor: Bonker. One course.

286. **Europe in the Twentieth Century. CCI, CZ** An examination, emphasizing cultural and political trends, of the turning points that have shattered political unity (two world wars, economic depression, protest movements, the Cold War and ethnic strife), as well as forces for unification (modernist literature, film and music, political ideologies, the Common Market, and post-1989 revival). Instructor: Staff. One course. C-L: International Comparative Studies 237

287. **History of the World Wars. CZ, EI, R, STS** An examination of the origins, course, and consequences of the world wars of twentieth century. Close attention is paid to impact of warfare on society and the ensuing moral and political controversies. Instructor: Bonker, Krylova, or Lentz-Smith. One course.

288. **German Way of War. CCI, CZ, EI, SS** This course explores German conducts of war in the nineteenth and twentieth centuries. Our explorations begin with Prussian military pursuits in the 1860s and end with the war efforts of Nazi Germany and their defeat in 1945. Paying special attention to languages and experiences of war, we will situate the German imagination and practice of war within the larger fabric of German state and society and relate military strategy to the pursuit of global power and empire. Instructor: Bonker. One course. C-L: German 288

289. **Weimar and Nazi Germany. CZ, R** The impact of World War I on German morale, the emergence of an exciting avant garde culture in Berlin, the establishment of a multiparty parliamentary government, women's emancipation, and economic crisis in the hyperinflation of 1922 and the Great Depression. Against this progressive background, Hitler's mobilization of masses of followers, seizure of power, and establishment of the first racial society. The killing fields and concentration camps on the Eastern Front. Instructor: Staff. One course. C-L: Visual and Media Studies 284, International Comparative Studies

295. **World War II and French Film. CCI, CZ, EI, FL** One course. C-L: see French 413; also C-L: Arts of the Moving Image 261, Visual and Media Studies 310

296. **The Military in Germany and the United States. CZ, EI, SS, STS** Explores the history of the military in Germany and the United States in the 19th and 20th centuries. Examines German and U.S. armed forces as distinct institutions and reconstructs their pursuits in war and peace while paying considerable attention to soldiers’ languages and experiences. Situating the two militaries within the larger fabrics of their respective states, societies, and cultures, we will explore the relationships between military and civilian realms, peoples, and discourses. In so doing, we will compare and contrast two ever-shifting military experiences and explore the ways in which they were entangled. Instructor: Bonker. One course.
297. **The Holocaust. CCI, CZ, EI, STS** Antisemitism and the Jewish question in Central Europe, the development of Nazi policy, the Final Solution in its different sites (ghetto, labor camps, extermination camps) and institutions (SS, Judenrat), the Holocaust's legacy. Historiographical debates and documentary research. Class might take field trip to the Holocaust Museum in Washington DC. Instructor: Hacohen. One course. C-L: Jewish Studies 342, Religion 342, Political Science 262

298. **Genocide in the Twentieth Century. CZ, EI, R** Focus on four cases in which soldiers have launched murderous attacks against civilians: Turks against Armenians, Nazis against Jews and other racial enemies, Khmer Rouge against their Cambodian enemies, and "ethnic cleansing" in Yugoslavia. Examines responsibility of both perpetrators and bystanders. Instructor: Staff. One course. C-L: Policy Journalism and Media, Ethics Courses Offered Through Other Departments


305S. **History of International Financial and Monetary Crises. CZ, EI, SS** One course. C-L: see Economics 305S

306. **Introduction to Economic History. CCI, CZ, SS** One course. C-L: see Economics 302

307. **History of Economic Thought. CCI, R, SS, W** One course. C-L: see Economics 311; also C-L: International Comparative Studies, Marxism and Society

308. **Adam Smith and the System of Natural Liberty. SS, STS** One course. C-L: see Economics 312; also C-L: International Comparative Studies

308S. **Adam Smith and the System of Natural Liberty. SS, STS** One course. C-L: see Economics 312S

310. **The International Economy, 1850-Present: From Globalization to Globalization. CCI, CZ, SS** One course. C-L: see Economics 304

312. **Europe's Colonial Encounter, 1492-1992. CCI, CZ, EI** The impact of colonial expansion on European economic development, political culture, and popular identity from the "age of discovery" through the present. Particular attention to the ethical implications of colonialism's influence on Western "civilization." Instructor: Thorne. One course. C-L: African and African American Studies 212, Canadian Studies 312, Ethics Courses Offered Through Other Departments

313. **Crime and the City from Dickens to The Wire. ALP, CCI, EI, SS** Compares representation of crime and the city in two key "texts": Charles Dickens's "Oliver Twist" and the HBO television series, "The Wire." Juxtaposes the social and political contexts to which each text refers, paying particular attention to the nature and causes of criminal activity therein. Explanations emphasizing individual or personal responsibility will be contrasted to those that take structural factors into account, including urban housing, public health, child labor, public education, poverty and its relief, urban governance, as well as the criminal justice system. Instructor: Thorne. One course. C-L: African and African American Studies 226

315. **The Emergence of the Atlantic Basin to 1713. CCI, CZ, W** The forces unleashed by the expansion of European influence into the Atlantic Islands along the west and southwest coast of Africa, and across the Atlantic Ocean into the Americas. Instructor: Gaspar. One course. C-L: Latin American Studies

318. **The Caribbean, 1492-1700. CCI, CZ** The Caribbean region from the arrival of Columbus (1492) to the emergence of sugar and slavery as powerful shapers of society and culture, by 1700. Instructor: Gaspar. One course. C-L: African and African American Studies 218, International Comparative Studies, Latin American Studies


321. **The Modern Caribbean after Emancipation. CCI, CZ** Focus on the Caribbean region as it transitioned from a collection of slave and colonial societies into a region of postcolonial and independent nations. Topics may include: postemancipation political and cultural struggles, pan-Africanism and Rastafarianism, nationalist and anticolonial movements, American economic and political influence in the region, Caribbean emigration to Europe and the United States, and global spread of Caribbean culture. Instructors: Dubois or Gaspar. One course. C-L: African and African American Studies 240

322. **The Age of Revolution. CCI, CZ, EI, SS** Global perspective on the Age of Revolution, from late 17th - 19th century. Exploration of the inter-connected events in Europe, the Americas, and Africa, focusing on the circulation of ideas, debates over slavery and freedom, and the overthrow of colonial empires through the creation of new nation-states, with special attention to the links between politics, cultural and artistic developments during the period. Explores the contested legacies of the Age of Revolution and the ways in which the memory of this period is evoked in contemporary culture. May involve field trips to local historical sights, museums & longer trips to other locations in the U.S. Instructor: Dubois. One course.

324. **Mexico Since Before Cortes. CCI, CZ** Survey of Mexican history since before the encounter between European and native peoples, the experience of conquest, independence rebellions, liberal reforms, revolution, and modernization. Instructor: Olcott. One course. C-L: Latin American Studies

326. **Latin America: Colonialism and Its Consequences. CCI, CZ** The pre-Columbian cultures, European conquest and its effects on the Amerindian peoples, and development of the Spanish and Portuguese Empires to the wars of independence with special emphasis upon colonial institutions and socioeconomic developments. Not open to students who have taken History 174. Instructor: Sigal. One course. C-L: International Comparative Studies, Latin American Studies

327. **Afro-Brazilian Culture and History. CCI, CZ, R** Slavery and the post-emancipation trajectory of Afro-Brazilians in a racist society that officially proclaims itself a "racial democracy." Comparisons drawn with the Afro-American experience elsewhere in Latin America and the United States. Instructor: French. One course. C-L: African and African American Studies 209, Portuguese 260, Latin American Studies


330. **Introduction to Contemporary Latin America. CCI, CZ** Interdisciplinary introduction to the peoples, cultures, and burning issues of contemporary Latin America and the Caribbean. Required course for students seeking the certificate in Latin American Studies. Instructor: French or Olcott. One course. C-L: Latin American Studies 230, International Comparative Studies

331S. **Exploring Latino Identity in the Twentieth Century. CCI, CZ, W** Interdisciplinary exploration of the formation of Latino identities over the course of the twentieth century, focusing largely on Mexican-American identities but also considering the experiences of South America, Central American, and Caribbean
immigrants to the United States. Uses a wide range of sources, including histories, novels, films, journalistic reports, and ethnographic studies. Instructor: Olcott. One course. C-L: Latino/a Studies in the Global South

335. United States Legal History. CCI, CZ, R, SS Law and society in the United States from the American Revolution to the present. Changing institutional structures of the American legal system, popular understandings of legal authority, and the social uses of law. Includes such topics as property, crime, and legal personhood; the law's impact on social identity and access to power; the consequences of economic and social transformations for America's legal order. Instructors: Balleisen or Edwards. One course.


337. The Era of the American Revolution, 1760-1815. CCI, CZ, EI, SS Origins, evolution, and consequences. Attention to economic, social, and geographical questions, as well as military, political, and moral issues. Instructor: Hart. One course.

338. The New Nation: The United States, 1800 to 1860. CZ, SS Examines the transformation of the new republic into a nation, focusing on the development of political institutions, the market economy, western expansion, and conflicts over slavery and the meaning of "freedom" for a wide range of people in the new nation. Instructor: Hart or Huston. One course. C-L: Marxism and Society

339. Constitutional Rights in U.S. History. CZ, EI, SS Focus on impact of courts on interpretation of constitutional language concerning rights of individuals, especially religious liberty, freedom of speech, and press, civil rights and property rights. Explore history of court decisions, including extra-constitutional influences, contemporary understandings, and consequences. Instructor: Hart. One course. C-L: Political Science 218

340. The Civil War and Reconstruction: The United States, 1850-1880. CZ, SS The social, economic, and cultural aspects of the Civil War's origins and outcomes as well as the resulting military, political, and legal conflicts. Focus on the contested and changing meanings of "freedom" in all sections of the country. Instructor: Glymph. One course.

341. The Gilded Age and the Progressive Era: The United States from 1870 to 1913. CZ, SS Industrialization, immigration, westward migration, and increased United States involvement in world political and economic affairs. The resulting political upheavals and the efforts of various groups to promote, control, or alter change. Instructor: Deutsch. One course.

342. The Origins of Modern America: United States, 1914-1941. CCI, CZ Post World War I transformations in foreign relations, technology, literature, the arts, political and economic thought and practice; the rise of a consumer society, the growth of the state, the increase in Mexican immigration, the "New Negro," and the "Modern Woman" during the "roaring twenties" and the Great Depression. Instructor: Deutsch or Lentz-Smith. One course.

343. Modern America: The United States from 1930 to present. CZ, SS The upheavals of recent United States history, including the New Deal, World War II, the Civil Rights Movement, and other movements for social change, the Vietnam War, the development of a global economy, the political realignments of the 1980s, and the nation's new role on the world stage. Instructor: Lentz-Smith or MacLean. One course.

344. History of U.S. Social Movements, 1776 to Present. CCI, CZ, EI, SS Examines the social movements that have shaped U.S. history, starting with the American Revolution itself and covering others including the anti-slavery movement, women's rights, Populism, Socialism, the Ku Klux Klan, the labor movement, the Black Freedom Movement and broader New Left, lesbian and gay liberation, and the recent conservative movement, focusing on the ethical issues arguments they raised, and how new civil, political, and social rights were created through social movement organizing. Lectures and readings explore why these movements arose, what they achieved, why many opposed them, and what we can learn about American history writ large from their experiences. Instructor: MacLean. One course.
344D. Historical Perspectives on Public Policy: The United States from 1945 to the Present. CZ, EI, SS
One course. C-L: see Public Policy Studies 272D

345. North American Environmental History. CZ, EI, STS
Historical roles of nature - as a cultural construct and a set of biological relationships- in shaping human choices in North America, from colonial times to the present. Special attention to historical origins of contemporary environmental politics, including the origins of wilderness; environmental justice movements; the changing politics of food, animal rights, and pollution; and tragedies of the commons, and the ethical challenges posed by global warming and population growth.
Instructor: Peck. One course. C-L: Public Policy Studies 278

346. Africans in America to the Civil War. CCI, CZ, EI
African, European, and Indian interactions; the black experience of slavery and racism; the evolution of Afro-American culture, resistance, and the general emancipation; ethical concepts and issues on human justice in the course of racial oppression and freedom struggle.

347. African Americans Since the Civil War. CCI, CZ, EI
Post-slavery black life and thought, as well as race relations and social change, during Reconstruction, Jim Crow, the Civil Rights and Black Power Movements, and contemporary times; ethical concepts and issues on human justice in the course of struggles for democracy, tolerance, and equality.

348. The Civil Rights Movement. CCI, CZ, EI, SS
An interdisciplinary examination of the civil rights movement from World War II through the late 1960s.
Instructor: Gavins or Lentz-Smith. One course. C-L: African and African American Studies 243, Ethics Courses Offered Through Other Departments

349. African American Women and History. CCI, CZ
One course. C-L: see African and African American Studies 310; also C-L: Women's Studies 237

350. African American Intellectual History, Twentieth Century. CCI, CZ, W
One course. C-L: see Cultural Anthropology 321; also C-L: African and African American Studies 281

351. Islam in the Americas. CCI, CZ, SS, W
One course. C-L: see Religion 384S; also C-L: African and African American Studies 274S, Islamic Studies

353S. Behind the Veil: Methods. CCI, CZ, R
One course. C-L: see Documentary Studies 323S; also C-L: African and African American Studies 238S

355S. Documentary Research Methods. ALP, R
One course. C-L: see Documentary Studies 295S

356S. Freedom Stories: Documenting Southern Lives and Writing. ALP, CCI, CZ
One course. C-L: see Documentary Studies 320S; also C-L: African and African American Studies 231S

357. The Insurgent South: Movements for Social Change Since the Civil War. CZ, SS
One course. C-L: see Public Policy Studies 232

359S. Canada from the French Settlement. CCI, CZ, R

360. Imagining the North American West: History and Myth, 1850-Present. CCI, CZ, SS
Major themes in the history of North American West (western Canada, United States, and northern Mexico) from the mid-nineteenth century to present, from the frontier to industrialization, Native Americans to Hollywood, Calamity Jane to Shane. Organized around thematic and chronological questions: The relationship between mythic and real Wests; the continent's most radical region in 1900 became its most conservative by 1980. Instructor: Deutsch or Peck. One course.

361. United States Political History, 1789-1900. CZ, SS
The development of American politics between the end of the Revolution and 1900. The extension and limitations of democracy; the emergence and extension of parties as the central institution of politics; the relationship between popular political initiatives and party
politics; the clash and transformation of party policies and ideologies; and the growth and transformation of the American state. Instructor: Huston. One course.

362. United States Political History, 1900 to the Present. CZ, SS U.S. political history from 1900 to the present. Topics include the emergence, evolution, and decline of a "liberal" coalition; the creation of a "conservative" coalition; the development of a powerful federal state and its social and political results; the role of money in politics; the transformation of voting rights and voter participation; reform and radical movements and their relationship to party politics and the federal government. Instructor: Huston. One course.


366. American Constitutional Development I. SS One course. C-L: see Political Science 215

367. Modern American Constitutional Development II. SS One course. C-L: see Political Science 216

368. History of Evolution and Society. CCI, CZ, SS, STS, W This course explores the power of origins stories in explaining and empowering societies. It contrasts religious creation stories with the scientific narratives that emerged in the past two centuries. Often seen as opposing narratives, these two styles of origin stories share much in common, and certainly the passion that surrounds them and their teaching owes much to the roles that origins stories have long played in societies. The course will review the history of evolutionary thought, as well as twentieth century developments in genetics, eugenics, and scientific analyses of human diversity. Instructor: Humphreys. One course.

368D. History of Evolution and Society. CCI, CZ, SS, STS, W This course explores the power of origins stories in explaining and empowering societies. It contrasts religious creation stories with the scientific narratives that emerged in the past two centuries. Often seen as opposing narratives, these two styles of origin stories share much in common, and certainly the passion that surrounds them and their teaching owes much to the roles that origins stories have long played in societies. The course will review the history of evolutionary thought, as well as twentieth century developments in genetics, eugenics, and scientific analyses of human diversity. Instructor: Humphreys. One course.

369. History of Public Health in America. CZ, R, STS The role of epidemic diseases such as smallpox, cholera, yellow fever, tuberculosis, and polio in shaping public health policy in the United States from the colonial era to World War II. Instructor: Humphreys. One course.

370. Twentieth-Century American Medicine. CCI, CZ, SS, STS Health, disease, and medicine in the twentieth-century United States. Topics include public health, race, technology, gender, ethics, economics, and the relationship between doctor and patient. Not open to students who have taken this course as History 390 or 104. Instructor: Staff. One course.

371. Chubby History: Obesity and Public Health. CCI, CZ, R, SS The obesity epidemic among children and adults in the United States, with focus on changes in food supply and consumption, agricultural policy, body image, exercise, federal food programs such as school lunch, food stamps, and food technology. Gender, racial, and socio-economic patterns of the epidemic. Not open to students who have taken this course as History 390 or 104. Instructor: Staff. One course.

372. Abortion in American Culture. CCI, CZ, EI, R, SS The American experience with abortion--before and after Roe v. Wade--considering issues of religion, politics, law, medicine, gender, and ethics. Fertility and family planning, the experiences of women both as abortionists and undergoing abortions, unwed mothers, teenage pregnancy and young parenthood, and the rise of advocacy groups in favor of and opposed to abortion. Comparison practices of Britain, Europe, and Japan. Instructor: Staff. One course.

373. American Sexualities. CCI, CZ, EI, SS This interdisciplinary course analyzes the construction of sexualities in the Americas, presenting the ways that individuals and institutions have created sexualities in a transnational frame in Latin and North America from the late fifteenth century through the present. Interactions across genders and cultural, ethnic, racial, and national boundaries have driven the historical creation and re-
creation of sexual ideologies, behaviors, and imaginations. American Sexualities analyzes a wide variety of ideas related to sex, focusing not just on marriage and mainstream sexualities, but also on the definitions of sexual acts that fall far outside the supposed norms of modern Western society. Instructor: Sigal. One course.

C-L: Study of Sexualities 373

374. Women, Gender, and Sexuality in U.S. History. CCI, CZ, EI, SS, W Major questions relating to women and women's place in society over the course of U.S. history, broadly defined, from the colonial period to the present: How did different groups of women see themselves as women? How did views of women's sexuality change? How did men's and women's relationships and roles change? How did women understand their connections to the larger society? How did race, ethnicity, and class shape all those issues? Course uses a variety of materials, including novels, movies, images, and music to explore the ethical contours of women's lives in the past, following change over time to better understand women's position today. Instructor: Edwards or Deutsch. One course. C-L: Women's Studies 239, Women's Studies

374D. Women, Gender, and Sexuality in U.S. History. CCI, CZ, EI, SS, W Major questions relating to women and women's place in society over the course of U.S. history, broadly defined, from the colonial period to the present: How did different groups of women see themselves as women? How did views of women's sexuality change? How did men's and women's relationships and roles change? How did women understand their connections to the larger society? How did race, ethnicity, and class shape all those issues? Course uses a variety of materials, including novels, movies, images, and music to explore the ethical contours of women's lives in the past, following change over time to better understand women's position today. Instructor: Edwards, Deutsch. One course.

375. United States Foreign Policy I: From World War II to Vietnam War. CCI, CZ, EI, SS One course. C-L: see Public Policy Studies 205

376. United States Foreign Policy II: From Vietnam War to the Present. CCI, CZ, SS One course. C-L: see Public Policy Studies 206

377D. American Dreams and American Realities. CCI, CZ Examines the role of such myths as "rags to riches," "beacon to the world," "the frontier" and "foreign devil" in defining the American character and determining hopes, fears, dreams, and actions throughout American History. Attention given to the surface consistency of these myths as accepted by each immigrant group versus the shifting content of the myths as they change to reflect the hopes and values of each of these groups. Instructor: Wilson. One course.

378. The 1960s: History and Public Policy. CZ, R, SS This course explores domestic and foreign policy in the turbulent 1960s. We study Vietnam, the War on Poverty, and the interactions between movements and policy on civil rights, women's rights, and the fate of the cities. Instructor: Lentz-Smith. One course. C-L: Public Policy Studies 203


382. Baseball in Global Perspective. CCI, CZ, EI, R, SS Examination of baseball from 18th-c. origins in Britain's North American colonies to the contemporary "World Baseball Classic." Topics addressed include transformation from amateur participant sport to commercial spectator sports business based in North America; globalization of the sport; commercialization and professionalization in new environments; and trans-national baseball as a lens for examining evolving class, race, gender, regional, and international relationships. Among central themes is how baseball's international migration reshaped the game. Instructor: Thompson. One course. C-L: Canadian Studies 382, Canadian Studies

383. Warfare in the Twentieth Century. CCI, CZ, EI, STS Key conflicts of this century evaluated in terms of causes and consequences (political, social, and economic) and strategy and technology (war plans, weapons systems, and doctrine). Comparison across regions of the world while addressing moral, legal and ethical questions regarding international conflict. Instructor: Bonker or Krylova. One course.
384. **World Military History. CZ, STS** Comparative study of war as a social institution in different times and cultures. Topics include the origins of war and war in ancient China, classical Greece, the Middle Ages, early modern Europe, colonial America, nineteenth-century Japan, the cold war, and Vietnam. The impact of technological developments on war and the way in which the tools of war shaped conflict between societies. Instructor: Bonker, Krylova, or Lentz-Smith. One course. C-L: International Comparative Studies 205


390. **Topics in History Lecture. CZ** Individual courses in this series may be taught more than once or on a one-time basis only. Instructor: Staff. One course.

390S. **Topics in History Seminar. CZ** Instructor: Staff. One course.

390A. **Duke-Administered Study Abroad: Special Topics in History. CCI, CZ** Register for course by designated suffix indicating the specific country. Courses numbered 390A-01 thru 390A-14 are lecture courses taught in Duke-administered study-abroad programs, for example, in Germany, Italy, France, China. These courses provide the same credit and fulfill the same curriculum requirements as any 200-300 level lecture course in the history department. One course.

390A-03. **Duke in France: Special Topics in History. CCI, CZ** Instructor: Staff. One course.
390A-05. **Duke in Italy: Special Topics in History. CCI, CZ** Instructor: Staff. One course.
390A-06. **Duke in Russia: Special Topics in History. CCI, CZ** Instructor: Staff. One course.
390A-08. **Duke in Germany: Special Topics in History. CCI, CZ** Instructor: Staff. One course.
390A-10. **Duke in Istanbul: Special Topics in History. CCI, CZ** Instructor: Staff. One course.

390AS. **Study Abroad: Seminar on Historical Topics. CCI, CZ** Register for country by the section designated in the Official Schedule of Courses. Instructor: Staff. One course.

390AS-10. **Duke in Istanbul: Special Topics in History. CCI, CZ** Duke-Administered Study Abroad Program. The undergraduate program in history is designed to introduce students to major conceptual tools and research methods of historical study, while providing a historical depth of field for the understanding of the contemporary world. Instructor: Staff. One course.

391. **Independent Study.** Fall semester directed-readings independent study. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

392. **Independent Study.** Spring semester directed-readings independent study. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. **Research Independent Study.** Fall semester research independent study. Usually undertaken by students concurrently with the Honors Seminar, or with an instructor with whom they have had a course. Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously
approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393A. Research Independent Study on Contemporary China. R Research and field studies culminating in a paper approved and supervised by the resident director of the Duke in China program. Includes field trips on cultural and societal changes in contemporary China. Offered only in the Duke in China Program. Instructor: Staff. One course.


395S. Politics and Obligations of Memory. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 403S

401S. The Inca Empire and Colonial Legacies. CCI, CZ, SS One course. C-L: see Cultural Anthropology 420S

411S. Human Trafficking: Past and Present. CCI, CZ, EI, R, SS One course. C-L: see Public Policy Studies 411S

450S. Capstone Seminar: 20th-Century South Africa Through Biography and Autobiography. CCI, CZ, R, W Explores twentieth-century South African history through the lens of biography and autobiography. Protagonists range from little known South Africans like Kas Maine, a sharecropper documented only in a 1931 record of a fine paid for failing to produce a dog license, to world renowned figures like Nelson Mandela. Readings cover virtually the entire twentieth century but have been carefully selected to provide a chronological presentation of South African history. Utilizes of a mix of scholarly and non-scholarly writings, as well as discussions exposing South Africa's countryside and cities, its underworld and its place on the world stage. Instructor: Shapiro. One course. C-L: African and African American Studies 406S

451S. Capstone Seminar: History of Zionism and the State of Israel. CCI, CZ, EI, R, SS Examines the development of Zionism as both an ideology and a political movement that contributed to the establishment of Israel in 1948. An examination of political, cultural and social history of the state as constantly changing patterns of interaction between domestic factors and the impact of regional as well as inter-nation dynamics. Particular attention given to the relationship between United States and Israel. Instructor: Y. Miller. One course. C-L: Jewish Studies 459S

452S. Capstone Seminar: Modern Sex: Sexuality and Modernity in the Americas. CCI, CZ, R, SS Examines the advent of modernity and its relationship with sexuality. Appraisal of how that relationship changes over the course of the twentieth century up to the present. Focus on the Americas, in particular the United States, Mexico, and Brazil. Instructor: Sigal. One course. C-L: Study of Sexualities 413S


454S. Capstone Seminar: Globalization, Women, and Development. CCI, CZ, R, SS, STS Uses a historical perspective on issues of development to examine globalization and its impact on women's lives. Examines ways in which social constructions of gender play a role in economic development. Appraises consequences of the internet revolution, new technologies, and the war for resources, particularly the impact of the material demand of microprocessor chips on war and manufacturing. Case studies of countries such as China, Korea, South Africa and Democratic Republic of Congo examine social policy, the influence of the International Women’s Movement, and women’s activism on their own behalf as they struggle to improve the economic conditions in which they live. Instructor: Mazumdar. One course. C-L: African and African American Studies 407S, International Comparative Studies 412S, Women's Studies 412S
**456S. Capstone Seminar: Intercolonial Relations in British America, 1600-1763.** CCI, CZ, R Explores the development of patterns of relations among British colonies in North America and the Caribbean and how these shaped a wider interconnected but differentiated colonial world. Discussion is framed against background of the formal framework of relations between Britain and her colonies. Themes to be explored include migration, trade, travel, the slave trade, slavery, communications, war, legal borrowing, maritime environment, cultural exchange, natural disaster. Instructor: Gaspar. One course.

**457S. Capstone Seminar: Maroon Societies in America.** CCI, CZ, R Origins and development of fugitive slave communities throughout the Americas from the sixteenth to the nineteenth century. Major focus is on their role in the operation of slave society. Instructor: Gaspar. One course.

**459S. Capstone Seminar: Sex, Celibacy, and Purity in the Middle Ages.** CCI, CZ, EI, R Explores notions of medieval sex, gender and sexuality in discussion and writing. Particular focus on diversity and fluidity of ideas about the body, sexuality, chastity, homosexuality, and male and female gender characteristics. Examination of these ideas in context of spirituality and holiness, particularly in light of the church's teachings on Christ, Mary, and the saints’ sexuality (or lack thereof). Additional examination of the place of politics and wealth in defining gender roles and expectations about sexuality. Instructor: K. Dubois. One course. C-L: Medieval and Renaissance Studies 426S, Religion 415S

**460S. Capstone Seminar: The Black Death and Medieval Society.** CCI, CZ, EI, R Source-based discussion seminar revolving around questions of social response to bubonic plague in the middle of the fourteenth century. Focus is England but students also read religious and literary texts from other parts of the medieval and late antique world. Exploration of how societies respond to catastrophe and what panic means in terms of communities and institutions. To what resources did people turn? What does this tell us about society in the Late Middle Ages? Comparison of medieval texts that assign causation and blame in conjunction with discourses of disease and catastrophe in the twentieth century. Instructor: Malegam. One course. C-L: Medieval and Renaissance Studies 429S

**461S. Capstone Seminar: Clothing and U.S. History.** CCI, CZ, R, SS, W Examines U.S. history through the lens of clothing, providing insight into style, individual identity, and cultural change. Also addresses a broad range of other issues, including property, international relations, economic change, trade, technology, and labor. Instructor: Edwards. One course.

**462S. Capstone Seminar: Heresy and Inquisition in the Middle Ages.** CCI, CZ, R Source-based discussion seminar. Inquiry into the content and context of religious deviation and its repression in western Christianity between 300 and 1500 but focusing on the medieval period. Emphasizes the fine line between religious evolution and heresy. Examines questions of coercion, social and religious reform, pre-modern state control and early demonology. Students engage in close reading of selected primary sources. Instructor: Malegam. One course. C-L: Medieval and Renaissance Studies 430S

**463S. Capstone Seminar: Medieval Communities.** CCI, CZ, EI, R Explore meaning of community in medieval period by studying a variety of living groups that emerged in Europe c. 800-1400. Examine roles of work and religion in creating communities, i.e. manorial, monastic, merchant, Islamic, Jewish, urban, and university communities, using primary and secondary sources. Instructor: Morrow. One course. C-L: Medieval and Renaissance Studies 432S

**464S. Capstone Seminar: Geopolitics of War and Empire in the Modern World.** CZ, R, SS This course examines the pursuit of military force, war, and empire and the making of global politics in the past two centuries. Our explorations range from the wars of nation, industry, and empire in the mid-nineteenth century to the world wars of the twentieth century and their legacy. We will pay special attention to the strategies of global ordering that were pursued by the political, military, and corporate elites of the major powers in an age of empire and globalization. Instructor: Bonker. One course.

**465S. Capstone Seminar: History of the U.S./Mexico Border, 18th to 20th centuries.** CCI, CZ, R, SS, W Explores the creation and perpetual remaking of the border between the U.S. and Mexico from the 1780s to
the current day. Topics explored include nation formation, citizenship and migration, public policy, border incursions, and national identity. Students will examine works of history and autobiography as well as government hearings and other primary sources. Instructor: Deutsch. One course. C-L: Latino/a Studies in the Global South 465S

466S. Capstone Seminar: The Militarization of the Western World. CCI, CZ, R, SS The course explores the process of militarization as it engulfed Europe and the United States in the "long" twentieth century. We will situate this process within the changing geopolitics of war and empire in a new global age. We will also pay close attention to the ways in which militarization affected the relationship between state, military, and society across the western world and (re)arranged relations of class, race, and gender, and of production, destruction, and reproduction. Instructor: Bonker. One course.

467S. Capstone Seminar: Russia-USSR-Russia: History of Communism. CCI, CZ, EI, R, SS The seminar offers an in-depth engagement with Russian modern history. Starting in the late 19th century, the seminar examines the formation of Russian Communist movement and communist regime as national and transnational phenomena of the 20th Century. A comparative perceptive allows students to analyze Russian appropriations of Marxist theory, the Russian Revolution, the making of the Stalinist state, de-Stalinization of the post-World War II period in the context of European and US labor movements and socialist experimentsations, on the one hand, and anti-Communist sentiments and Cold War politics, on the other, while engaging with ethical issues raised by conflicting perspectives on the value and meaning of freedom and happiness and the means of achieving it. Instructor: Krylova. One course. C-L: Political Science 445S, Slavic and Eurasian Studies 420S

469S. Capstone Seminar: American Dreams/American Realities. CCI, CZ, R Examines the role of such myths as "rags to riches," "beacon to the world," "the frontier" and "foreign devil" throughout history in defining the American character. Instructor consent required. Instructor: Wilson. One course.

470S. Capstone Seminar: Leadership in American History. CZ, EI, R Focuses on political, social, business and artistic leaders in American history and problems which have called for leadership. Instructor consent required. Instructor: Wilson. One course.

477S. Capstone Seminar: Regulating American Business: Historical Perspectives. CZ, EI, R, SS, W Explores shifting approaches to economic regulation in American history from the Revolution to the present, with a focus on 20th century. Examines reliance on pre-modern administrative mechanisms to shape American business environment, regulation through civil or criminal law, rise of the modern administrative state in late nineteenth and early twentieth centuries, extension and maturation of regulatory frameworks in 1960s and 1970s, and dominant impulses of deregulation during the last three decades. Instructor: Balleisen. One course. C-L: Public Policy Studies 412S

481S. Capstone Seminar: The Age of Jim Crow: Racial Segregation from Plessy (1896) to Brown (1954). CCI, CZ, EI, R The emergence, nature, and consequences of racial segregation (also known as Jim Crow) in the South and nation; how Jim Crow compares to the system of apartheid in South Africa; perspectives on black life and race relations in southern communities; and major challenges to Jim Crow by African American religious, social, and civil rights organizations and their allies. Instructor: Gavins. One course. C-L: African and African American Studies 409S

482S. Capstone Seminar: Post-Civil Rights America: The Search for Social Justice, 1968-Present. CZ, EI, R Central outcomes of the Civil Rights Movement, 1968 to the present; critical reading and discussion, research and writing on racial and social equality and inequality in major areas of American life, notably electoral politics; education; religion and ethics; and public culture. Instructor: Gavins. One course. C-L: African and African American Studies 408S

487S. Capstone Seminar: Immigration Policy History. CZ, EI, R, SS, W Immigrants and immigration policy in the United States from the late nineteenth century to the present, with focus on origins of immigrant exclusion during two waves of immigration: "new" immigrants from Europe and Asia, 1880-1920, and Central American, African, and Asian migrations, post 1965. Immigrant roles in shaping policy debates, citizenship
requirements, free labor, and American culture. Ethical dilemmas generated by immigration. Research paper required. Instructor: Peck. One course. C-L: Public Policy Studies 413S

490S. Capstone Seminars in Special Topics. CZ, R Practice of historical research interpretation and writing with focus on a specific historical question. Topics are numerous and vary each semester. Most seminars are offered for one semester and carry one course credit. If students wish to enroll in only one semester of a year-long seminar, they must obtain permission from the instructor. Both history majors and nonmajors may enroll in the seminars during their junior or senior years. Students are urged to enroll in their junior year if they expect to apply for the Senior Honors Seminar (History 495S-496S) or to practice-teach in their senior year. Instructor:Staff. One course.

495S. Senior Thesis Seminar. CZ, R, W Designed to introduce qualified students to advanced methods of historical research and writing, and to the appraisal of critical historical issues. Open only to seniors, but not restricted to candidates for graduation with distinction. This course, when taken by a history major, is accompanied by either a year-long 490S-196S seminar, two courses at the 200 level, or 393-394 independent study, supervised by an instructor. One course.

496S. Senior Thesis Seminar. CZ, R, W Continuation of History 495S. Instructor: Staff. One course.

502S. Japan Since 1945. CCI, CZ, R Issues relating to post-War Japan. Topics include: the Occupation; democracy in postwar Japan; the rise of mass consumption; security and the US-Japan alliance; the political system; popular culture; arts and literature; the transformation of the countryside; the creation of an economic superpower; the myth of the kaisha; moments of conflict and crisis. Instructor: Partner. One course.


505S. Race, Class, and Gender: A Social History of Modern (1750-present) Britain. CCI, CZ, EI, SS body of scholarship examined addresses the nature and transformation of social relations in Great Britain in the wake of the major watersheds of the modern period, including the world's first industrial revolution, imperial expansion, political economy and democratization, world wars, the rise and fall of the welfare state, decolonization, Commonwealth immigration, and admission into the European Union. Examines impact of theoretical influences on the academy ranging from Marxism through the Cold War, feminism and anti-racism, and post structuralism to post colonialism. Instructor: Thorne. One course. C-L: African and African American Studies 515S, Women's Studies 509S

509S. United States Policy in the Middle East. CCI, SS One course. C-L: see Public Policy Studies 503S, International Comparative Studies

516. The Roman Republic. CCI, CZ, R One course. C-L: see Classical Studies 532

519S. The Society and Economy of Europe, 1400 - 1700. CCI, CZ, R The dynamism of the early modern world with a focus on Europe's recovery and expansion during the "long sixteenth century:" special attention to the relationship of population structures to the economy, agrarian expansion and the world of the village; capitalist trade and industry; the "crisis of the seventeenth century:" family and household structures; the aristocracy; and the structure of life at court, in the cities and countryside. Instructor: Robisheaux. One course. C-L: Medieval and Renaissance Studies 570S

523S. Religion and Society in the Age of the Reformation. CZ, R The social history of religion in the age of the Protestant Reformation and Catholic Renewal; ritual and community in the fifteenth century; the Protestant Reformation and social change; the urban reformation in Germany and Switzerland; women and reform; Protestant and Catholic marriage, household and kinship; Catholic renewal; the formation of religious confessional identities; religion and violence; interpreting "popular" religious culture; and witchcraft. Instructor: Robisheaux. One course. C-L: Medieval and Renaissance Studies 575S

528S. Greek History: Fifth Through First Centuries BC. CZ Three courses. C-L: see Classical Studies 528S
532S. Fin-de-siècle and Interwar Vienna: Politics, Society, and Culture. CCI, CZ, R, SS Advanced undergraduate and graduate colloquium and research seminar focusing on the cultural milieu of fin-de-siècle and interwar Vienna. Readings in the Austro-Marxists, the Austrian School of Economics, Freud, Kraus, the Logical Positivists, Musil, Popper, and Wittgenstein. Monographs on the Habsburg Empire, Fin-de-siècle culture and technology, Viennese feminism, Austrian socialism, philosophy of science, literature and ethics, and the culture of the Central European émigrés. Instructor: Hacohen. One course. C-L: German 532S

533S. Greek History from the Bronze Age to the fifth century BCE. CZ One course. C-L: see Classical Studies 524S

534S. Roman History from Romulus to Augustus. CCI, CZ One course. C-L: see Classical Studies 532S


536S. The Russian Revolution. CZ, R An analysis of the Bolshevik seizure of power in 1917 and the establishment of a revolutionary society and state during the 1920s. Instructor: M. Miller. One course. C-L: International Comparative Studies

537S. Post War Europe, 1945-1968: Politics, Society, and Culture. CCI, CZ, EI, SS, STS Politics, society and culture in Western Europe during the postwar years focusing on Cold War culture, liberalism and intellectual life. "East" and "West" during the Cold War: A comparative examination of Western European societies' and movements' responses to communism, highlighting debates on the morality of socialism and capitalism and on liberty, historical determinism, and individual responsibility. Examination of the anxieties and hopes evoked by postwar technological and economic progress - by "Americanization" and the "Economic Miracle." Instructor: Hacohen. One course. C-L: Political Science 515S

538. The Roman Empire. CCI, CZ, R One course. C-L: see Classical Studies 536

539S. Roman History from Augustus through Late Antiquity. CCI, CZ One course. C-L: see Classical Studies 536S

540S. Ethnohistory of Latin America. CCI, CZ, R, SS One course. C-L: see Cultural Anthropology 570S; also C-L: Literature 573S

543S. Maritime Predation and European Imperial Expansion in the Atlantic Basin, 1492-1730. CCI, CZ, R, SS Exploration of the origins, development, and decline of privateering and piracy as systems of maritime predation in the Atlantic basin during the period 1492-1730, building on related processes in the Mediterranean. Includes extensive study of Atlantic maritime history broadly defined. Instructor: Gaspar. One course.

546. History of Poverty in the United States. CCI, CZ, SS One course. C-L: see Study of Ethics 561; also C-L: Public Policy Studies 528

552S. Twentieth Century Social Movements in America. CCI, CZ, EI, SS Focus on the emergence of the women's movement and the civil rights movement, both concerned with issues of equality and justice, in the United States during the post-New Deal period. Instructor: MacLean. One course. C-L: Ethics Courses Offered Through Other Departments

562S. Courts, Wars, Legacies of Wars. R, SS One course. C-L: see Political Science 661S

567S. American Grand Strategy. CZ, R, SS One course. C-L: see Political Science 562S; also C-L: Public Policy Studies 501S

572S. Anthropology and History. SS One course. C-L: see Cultural Anthropology 501S

577S. Historical and Philosophical Perspectives on Science. CZ, STS One course. C-L: see Philosophy 541S; also C-L: Literature 521S, Women's Studies 541S

582S. Narrative, History, and Historical Fiction. ALP, CZ, R, W Examines alternative approaches to the reading and writing of history, particularly the use of narrative. Explores the power of narrative on the human
imagination. Explores issues of writing "responsible" narrative history/historical fiction. Class reads and
discusses selected works of historical fiction and narrative non-fiction. Combines theoretical overview with
workshop format. The major project is to write a substantial piece of narrative history or historical fiction.
Instructor: Partner. One course.

587. Modern Literature and History. ALP, CCI, CZ, FL One course. C-L: see French 556
590S. Topics in History Seminar. CZ Seminars in advanced topics, designed for seniors and graduate
students. Some semesters open to seniors and graduate students; some semesters limited to graduate students
only. Instructor: Staff. One course.

THE MAJOR

The history major has three objectives. First, it offers students broad exposure to the histories of our own
and other societies, to the recent and the more distant past, and to the variety of approaches to the study of
history. Second, it allows the in-depth study of the history of a particular time and place or a particular type
of history. Breadth of knowledge is achieved through the distribution requirements for coursework across five
geographic areas and in pre-modern as well as modern history. Depth is achieved through the requirement
that students identify a concentration. Third, it develops the skills of historical thinking necessary for better
understanding our own and other human societies, to gather and interpret evidence, and to fashion and
compellingly convey arguments grounded in this evidence. These skills are first developed in the gateway
and fully developed in a senior capstone seminar.

Major Requirements: Ten history courses at least eight of which must be at or above the 200 level. One
Advanced Placement credit may count toward meeting the ten-course history requirement but does not count
towards meeting the area or concentration requirements below. The ten courses may include courses cross-
listed as history courses regardless of the department through which the student enrolls. The ten courses are
to be distributed as follows:

• Gateway Seminar One gateway seminar usually by the end of the sophomore year.
• Areas of History One course each in ANY THREE of the five geographic areas listed below; two
courses in the pre-modern era (see pre-1800 course list on department website).
• Concentration At least four courses in the student’s area of concentration. A concentration may
be chosen from a geographic or thematic area. Students may propose other thematic areas, and
seek approval from the director of undergraduate studies and the student’s history advisor. One
course below the 100-level may be counted toward the student’s concentration; concentration
courses may count toward meeting the area and pre-modern distribution requirements.
• Capstone Seminar Each major must take at least one capstone research seminar (400-level History
seminar). This seminar is usually taken in the senior year, but may also be open to juniors. In
exceptional circumstances, a 500- or 600-level course may be substituted for the capstone seminar
if approved by the director of undergraduate studies and the course instructor. The senior thesis
seminar (History 495S and 496S) substitutes for the capstone seminar for those students enrolled.
Independent study courses (History 393 or 394) may not substitute for either the gateway or the
capstone seminar requirement.

Geographic Areas are as follows (see department website for individual courses in each area):

• Africa, Middle East, Asia
• Europe and Russia
• Global or Comparative
• Latin America and Caribbean
• United States and Canada

Thematic Areas are as follows (see department website for individual courses in each area):

• African Diaspora
• Economic and Business Cultures
• Emotions and Psychology of the Self
• Human Rights and Social Movements
• Law and Governance
• Medicine, Science, and Technology
• War, Military, and Society
• Women, Gender, and Sexuality

**Pre-Modern courses** focus substantially on eras before 1800. Pre-1800 courses are listed on the department website.

**Double counting:** Courses can fulfill two or more requirements. For example, History 257 would count as both a pre-modern class and as a European geographic area. For a student with a concentration on Europe, it would also count toward the concentration requirement.

**Advanced Placement:** One (1) Advanced Placement course (with a score of 4 or 5) in any field of history may count as one of the ten required courses for the history major. This AP credit does not count towards meeting the area or concentration requirements for the major.

**Transfer Credit:** Up to two courses taken at other universities or in an approved study abroad program that receive transfer credit may count towards the history major.

**Foreign Languages** Majors interested in a particular area of study benefit from knowledge of the language of that area. Majors who contemplate graduate work are reminded that a reading knowledge of one or more foreign languages is required.

**Majors Planning to Teach** Majors who plan to teach in secondary schools should consult an advisor in education. Rising juniors who intend to practice-teach in the senior year should consider taking the senior capstone seminar as juniors.

**Departmental Graduation with Distinction.** Any student who is qualified (see the section on honors in this bulletin) may apply to the director of undergraduate studies for permission to undertake work leading to a degree with distinction in history.

**THE MINOR**

The history minor offers students specializing in another department or program the opportunity to enrich their studies with an historical perspective.

**Requirements:** a minimum of five history courses, at least three of which must be at the 200-level or above. Cross-listed courses are acceptable regardless of the department through which the student enrolls. Courses taken satisfactory/unsatisfactory and Advanced Placement credits do not count toward the minor; one transfer course may count toward the requirements for the minor.

**House Courses (HOUSECS)**

House courses, offered in the fall and spring terms, are intended to provide academic experiences that are not offered by regular departmental courses. A house course must be hosted by a residential unit, sponsored by a Trinity College faculty member and a department in Trinity College of Arts and Sciences, and approved by the Committee on Courses of the Arts and Sciences Council. House courses carry a half-course credit. In the Pratt School of Engineering, house courses cannot be used to meet degree requirements. In Trinity College, not more than two semester-course credits earned in house courses can be counted toward the course requirement for graduation. House courses do not count toward other requirements. Grades are submitted only on the pass/fail basis. Further details are available in 011 Allen Building.

**59. House Course.** Special topics course. Information about specific offerings each term available prior to the start of classes at the following website: [http://trinity.duke.edu/house-courses](http://trinity.duke.edu/house-courses). Satisfactory/Unsatisfactory grading only. Instructor: Staff. Half course.
Human Development (HUMANDEV)

Associate Professor Gold, Director; Assistant Professor Gustafson; Research Associate Maxson

A certificate, but not a major, is available in this program.

The goal of the Human Development interdisciplinary program is to broaden the perspectives of students interested in human development and human behavior and to enhance students' understanding of the biopsychosocial perspective of development across the life course. The Program also highlights ways in which relevant disciplines conceptualize and study continuity and changes across the human life course, demonstrates how disciplinary perspectives complement and extend each other, and facilitates dialogue among faculty and students with common interests in human behavior.

The program's goals are fostered by an integrated curriculum of required and elective courses that include a Research Apprenticeship and a Capstone Senior Seminar. All students enrolled in the Certificate Program receive personal advising from the Program Director as they plan their course and research opportunities. Students who complete all six required courses receive a certificate; however, participation in Human Development courses (224 and 260) is available to all undergraduates.

The curriculum for the Human Development Certificate includes four required courses and two electives. The required courses, described below, are Human Development 224 (Human Development); and either Human Development 260 (Psychosocial Aspects of Development) or Psychology 474S (Biological Psychology of Human Development); Human Development 401 (Research Apprenticeship in Human Development); and Human Development 450S (Capstone Seminar in Human Development). NOTE: The Research Apprenticeship experience can also be met by completing a research independent study in an academic department; this requires pre-approval by the Director of the Program.

Two elective courses are chosen from a list of biological, psychological, and social science courses affiliated with the program published in the Program Brochure and on the Program Web site; http://www.geri.duke.edu/educate/realundergrad.html. The Research Apprenticeship arranged through the program and the Senior Seminar are available only to students seeking the Program Certificate. Other components of the program are available to all undergraduates.

224. Human Development (D). CCI, EI, R, SS
The multidisciplinary nature of developmental research; the psychological, social, cultural, and biological paradigms as they relate to human development; normative and non-normative behaviors and changing cultural values across the life course; comparison of how different age groups (e.g., children, young adults) modify values to work within their specific cultural and social needs. Designed for sophomores enrolled in or considering the Certificate Program in Human Development. Consent required for juniors and seniors. Instructor: Gustafson, Maxson, or staff. One course. C-L: Psychology 235, Sociology 224

260. Psychosocial Aspects of Human Development (D). CCI, EI, SS
Biological, cultural, behavioral, and social arenas of human development throughout the human life span, with emphasis on the comparison of socially constructed age groups. Examination of age groups in terms of their unique ethical values and challenges, as well as the social dilemmas caused by the extension of life expectancy. Psychosocial development between (1) men and women, (2) African-Americans, Hispanics, Asians, and Caucasians, and (3) different socioeconomic strata. Service learning project with daily journals required. Instructor: Gold. One course. C-L: Psychology 236, Sociology 260, Ethics Courses Offered Through Other Departments

391. Independent Study in Human Development. Independent Study of selected theoretical, methodological, and applied topics with emphasis on social change, psychological development, and policy issues in aging societies. Instructor: Staff. One course.

401. Research Apprenticeship in Human Development. R Supervised research in a laboratory, on a specified research project, or in an organizational setting. Consent of the Director of the Undergraduate Program in Human Development required. Consent of instructor required. Instructor: Gold. One course.
450S. Capstone Seminar in Human Development. CCI, EI, R, SS Synthesis of developmental theories with real-life experiences over the life course. Current ethical and moral issues, such as biomedical ethics and values across the life course (including treatment of very low birth weight babies to Do Not Resuscitate orders), and comparisons among different age groups. Normative and non-normative behavior across the life course. Individual and group research projects required. Consent of instructor required. Students required to take this course as second-semester seniors in order to receive the Human Development Certificate. Instructor: Gustafson or staff. One course.

493. Research Independent Study. R Individual research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in a substantial academic product. Instructor: Staff. One course.

OTHER COURSES

Psychology
435S. The Role of Race and Culture on Development (D, P)
474S. Biological Psychology of Human Development (B, D, P)

Immunology
For courses in immunology, see Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates on page 440.

Information Science and Information Studies (ISIS)
Assistant Research Professor Szabo (Art, Art History, and Visual Studies), Program Director; Associate Professor of the Practice Lucic (Computer Science), Director of Undergraduate Studies; Professor Lenoir, Kimberly J. Jenkins Chair for New Technologies in Society, Director of Graduate Studies; ISIS Research Scholar Gessler

A certificate, but not a major, is available in this program.

The Information Science and Information Studies (ISIS) certificate program offers students an interdisciplinary approach to study the nature of information and its impact on art, culture, science, business, society, and the environment. ISIS helps students fill the gap between current academic training and the increasing demand in all professions for a broad understanding of the legal, social, philosophical, computational, cultural, and aesthetic issues concerning information technology and other related innovations. The program's integrated curriculum combines topics and practices including information management; photonics and visualization; multimedia design; issues of security, privacy, and property; and the history of science and technology. More information is available at the program Web site, at http://isis.duke.edu/.

CERTIFICATE REQUIREMENTS

The certificate requirements include a team-taught introductory course, a communications course, three electives, and a research-oriented capstone course.

The ISIS Certificate requires six courses:

A. Information Science and Information Studies 201: Perspectives on Information Science and Information Studies or Computer Science 92 or 202: Internet and Society.

B. For non-computer science and non-engineering majors, Information Science and Information Studies 240: Fundamentals of Web-based Multimedia Communications. For engineering and computer science majors, Engineering 206L or Computer Science 290.

C. Three electives selected from a list of ISIS-approved courses.

D. Information Science and Information Studies 495S: Research Capstone.

No more than three courses may originate in a single department and no more than two courses that are counted toward the ISIS Certificate may also satisfy the requirements of any major, minor, or other certificate program.
Program enrollment

Only students who have officially declared their major may enroll in the program, although all students may take ISIS courses on a first-come/first-served basis, with ISIS certificate students having preference.

101. Technical and Social Analysis of Information and the Internet. EI, QS, STS
One course. C-L: see Computer Science 92; also C-L: Policy Journalism and Media Studies

111. Introduction to the Arts of the Moving Image. ALP
One course. C-L: see Arts of the Moving Image 101; also C-L: Visual and Media Studies 102, Visual Arts 102, Literature 111

170. Artificial Life, Culture, and Evolution. QS, SS, STS

180FS. Visual Representation and Visual Culture. ALP, SS, STS
Understanding of human perception, visualization, and computer graphics techniques. Basic principles of perception like lightness, brightness, contrast, constancy, color theory, and visual attention. Use of current visualization techniques in graph tools, volume rendering, surface rendering, use of glyphs, and animation to see their strengths, weaknesses, and visual artifacts. Lectures and readings on theoretical foundation of particular techniques. Course projects on the practical application of techniques to real-world datasets. Represent student data in several ways and determine the best method. Open only to students in the Focus Program. Instructor: Staff. One course. C-L: Visual Arts 180FS

190. Special Topics in Information Science and Information Studies. Topics vary by semester. Instructor: Staff. One course.

190S. Special Topics in ISIS: Introductory Seminar. Topics vary per semester. Instructor: Staff. One course.

195FS. Virtual Form and Space. ALP
One course. C-L: see Visual Arts 195FS; also C-L: Arts of the Moving Image 195FS

201. Perspectives on Information Science and Information Studies. CZ, STS
Survey of topical issues pertaining to Information Technology and its impact on our world, society, and our daily lives. A variety of intellectual modules exploring the understanding of information systems, information technology in the arts and humanities, the physical nature of information, ethical/policy implications, and ownership and control of information. Instructor: Lucic or Szabo. One course. C-L: Visual and Media Studies 285

208LS. Virtual Form and Space. One course. C-L: see Visual Arts 208LS; also C-L: Arts of the Moving Image 321LS

210FS. Authoring Digital Media: Theory into Practice. ALP, STS
Collaborative, project-based course. Authoring digital media projects as part of a theoretical, critical, and historical understanding of a special topic or theme. New modes of knowledge production in the digital era. Hands-on use of digital media hardware and software in combination with theoretical and critical readings to create digital archives, environments, and simulations. Independent research into subject areas to be explored with digital media tools. Instructor: Szabo. One course.

211. Animated Film: A History and Aesthetic. ALP, STS
One course. C-L: see Arts of the Moving Image 215; also C-L: Visual Arts 328

214S. Media Theory. STS
One course. C-L: see Literature 317; also C-L: Arts of the Moving Image 204S, Visual and Media Studies 328S
215. Representing Haiti. CCI, CZ, R, STS One course. C-L: see Romance Studies 345; also C-L: Visual and Media Studies 251

224AS. Writing the Hollywood Cyber Journal. ALP Half course. C-L: see Arts of the Moving Image 297SA

225S. This Is Your Brain on the Internet. ALP, EI, STS Trans-disciplinary exploration of deep structure of cognition and community in a digital age. Readings include theoretical/expressive books and articles ranging from neuroscience to films and literature, from a range of non-traditional sources (websites, interactive games and virtual environments, new media art exhibits etc.). Ongoing collaborative assignments requiring multimedia presentation to class and to a general public online. Instructor: Davidson. One course. C-L: Visual and Media Studies 303S

235. Espionage, Cryptology, Psyops. SS, STS Explores cultural context of spies, codes and psychological operations from perspectives of anthropology, complexity and multiple agency, towards understanding how tradecrafts of intelligence and disinformation shaped, and continue to shape us and our information technologies. Work with historic and contemporary, previously classified and open sources, case studies and multimedia, including hands-on practice with propaganda leaflets, cryptographic machines and cryptanalysis, to explain the roles of networks of trust, secrecy and deception in cultural coevolution. No prerequisites. One course. C-L: Cultural Anthropology 226

240. Fundamentals of Web-Based Multimedia Communications. ALP, QS, R Multimedia information systems, including presentation media, hypermedia, graphics, animation, sound, video, and integrated authoring techniques; underlying technologies that make them possible. Practice in the design innovation, programming, and assessment of web-based digital multimedia information systems. Intended for students in non-technical disciplines. Engineering or Computer Science students should take Engineering 206 or Computer Science 290. Instructor: Lucic or Szabo. One course. C-L: Visual and Media Studies 288, Arts of the Moving Image 325, Policy Journalism and Media

241L. Web Project Design and Development. QS Follow-on to ISIS 140. Students should be experienced with basic HTML and CSS. Information and graphic design; use-case development; readings and group critiques. Continued work with HTML, CSS, HTML5, Javascript. Introduction to PHP, MySQL and/or other server-based authoring techniques. Creation and templating of blogs, wikis, and content management systems. Web 2.0 and 3.0 technology implementation. Embedded media and objects. Intellectual property and fair use. User testing. Short exercises, group work, individual semester project, and public site launch. Instructor: staff. One course.

243S. Sound for Film and Video. ALP, STS One course. C-L: Arts of the Moving Image 350S, Documentary Studies 277S, Music 121S

248S. Editing for Film and Video. ALP One course. C-L: see Arts of the Moving Image 357S; also C-L: Documentary Studies 288S

251. Spanish Literature of the Renaissance and the Baroque. ALP, CCI, FL One course. C-L: see Spanish 410; also C-L: Medieval and Renaissance Studies 458

268. Media History: Old and New. ALP, SS, STS One course. C-L: see Visual and Media Studies 266

270FS. Constructing Immersive Virtual Worlds. QS Theory, practice, creation of 3D virtual worlds. Hands-on design and development of online immersive synthetic social spaces with Croquet. Introduction to Smalltalk/Squeak programming and graphics workflow for creating virtual worlds and media assets. Critical exploration of state-of-the-art virtual world technologies; 3D graphics, text chat, voice, video, simulations, mixed reality systems. Topics include: history and culture of virtual worlds, in-world identity and avatars; behavioral norms; self-organizing cultures; virtual world economies; architectural scalability. Some programming experience helpful. Open only to students in Focus program. Instructor: Lombardi, McCahill. One course.

270S. Constructing Immersive Virtual Worlds. QS Theory, practice, and creation of 3D virtual worlds. Hands-on design and development of online immersive synthetic social spaces with Croquet. Introduction to
Smalltalk/Squeak programming and graphics workflow for creating virtual worlds and media assets. Critical exploration of state-of-the-art virtual world technologies; 3D graphics, text chat, voice, video, simulations, and mixed reality systems. Topics include: history and culture of virtual worlds, in-world identity and avatars; behavioral norms; self-organizing cultures; virtual world economies; architectural scalability. No prerequisites - some programming experience helpful. Consent of instructor required. Instructors: McCahill and Lombardi. One course. C-L: Computer Science 102S, Visual and Media Studies 287S

273S. Gaming the System: Pervasive Gaming as Art. ALP, STS One course. C-L: see Visual and Media Studies 239S

275. Global Performance Art: History/Theory from 1950's to Present. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 344; also C-L: Literature 222, Theater Studies 235, Women's Studies 276

279S. Visual Cultures of Medicine. ALP, STS One course. C-L: see Visual and Media Studies 346S

283. Cultural History of the Televisual. ALP, CZ, STS One course. C-L: see Visual and Media Studies 345; also C-L: Arts of the Moving Image 207, Policy Journalism and Media Studies


291. ISIS Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of both the instructor and director of undergraduate studies required. Instructor: Staff. One course.


293. ISIS Research Independent Study. R Individual research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of both the instructor and director of undergraduate studies required. Instructor: Staff. One course.

294L. Interactive Graphics: Critical Code. ALP, QS One course. C-L: see Visual Arts 242L; also C-L: Arts of the Moving Image 323, Policy Journalism and Media Studies


355S. Foundations of Interactive Game Design. ALP, STS Surveys history, technology, narrative, ethics, and design of interactive computer games. Games as systems of rules, games of emergence and progression, state machines. Game flow, games as systems of pleasure, goals, rewards, reinforcement schedules, fictional and narrative elements of game worlds. Students work in teams to develop novel game-design storyboards and stand-alone games. Exploration of the interplay between narrative, graphics, rule systems, and artificial intelligence in the creation of interactive games. Programming experience not required. Instructor: Young. One course. C-L: Visual and Media Studies 355S

**360S. Digital Humanities: Theory and Practice. ALP, STS** Digital humanities theory and criticism. New modes of knowledge production in the digital era for humanists. Authoring and critiquing born digital projects as part of a theoretical, critical, and historical understanding of a special topic or theme in the humanities. Hands-on use of digital media hardware and software in combination with theoretical and critical readings for content analysis of text, images, audio, video and to create digital archives, databases, websites, environments, maps, and simulations. Independent digital projects + critical papers as final deliverables. Instructor: Szabo. One course. C-L: Visual and Media Studies 356S

**365. Media Remix: Sampling Theory. ALP, EI, STS** Explores remix culture and the ways in which creators of cultural artifacts borrow, appropriate, and remix other people's content. Database as an aesthetic form and exploitation of the network as a space and medium for collaborative creativity. Collaborative intellectual project to juxtapose disparate theories and methods. Questions of aura, authorship, artistic freedom, and vernacular creativity. Copyright and intellectual property. Readings, viewings, in-class presentations, online exhibitions. Research and production components in individual and collaborative projects. Instructor: Staff. One course. C-L: Visual and Media Studies 366

**376. Performance and Technology: Composition Workshop. ALP, STS** One course. C-L: see Dance 308; also C-L: Theater Studies 364

**395T. Tutorial - Information Science + Information Studies. ALP, QS** Tutorial under the supervision of a faculty member or members for two or more students working on related projects. Consent of instructor and Director of Undergraduate Studies required. Instructor: staff. One course.

**475S. Alternate Reality Games. ALP, STS** Focus on Alternate Reality Games (ARGs) in theory and practice. ARG genre of interactive narrative. Real world as a game platform, often involving multiple media and game elements, to tell a story that may be affected by participants' ideas or actions. Direct interaction with characters in the game, plot-based challenges and puzzles, collaborative analysis of story and coordinated real-life and online activities. New media theory and history. Study of the most successful recent ARGs, exploration of alternate reality game design, collaborative construction of our own ARG. Individual and group projects, essays, and presentations. Coordination with GreaterThanGames Franklin Humanities Lab. Instructor: Lenior. One course.

**490. Special Topics in Information Science and Information Studies.** Topics vary per semester. Information science and studies areas as understood historically, thematically, and in contemporary cultures. Theoretical readings coupled with hands-on work with technology and new media applications. Instructor: Staff. One course.

**490S. Special Topics in Information Science and Information Studies.** Seminar version of Information Science and Information Studies 490. One course.

**491. ISIS Independent Study.** Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of both the instructor and director of undergraduate studies required. Instructor: Staff. One course.

**493. ISIS Research Independent Study.** Individual research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product. Consent of both the instructor and director of graduate studies is required. Instructor: Staff. One course.
495S. Research Capstone. R, SS Course limited to ISIS certificate students. Students plan, research, and create new technology projects designed to facilitate interdisciplinary collaborative research, synthesizing their coursework in the program. Discussion sections meet weekly to discuss project goals and progress, learn principles of effective research project management, interdisciplinary collaboration, and ethical conduct research. Instructor: Szabo. One course.

510S. How They Got Game: History and Culture of Interactive Simulations and Video Games. ALP, STS History and cultural impact of interactive simulations and video games. Evolution of computer and video game design from its beginnings to the present: storytelling, strategy, simulation, sports, 3D first-person games. Cultural, business, and technical perspectives. Insights into design, production, marketing, and socio-cultural impacts of interactive entertainment and communication. Students should have a dual processor implant with 1TB of VRAM. Instructor: Lenior. One course. C-L: Visual and Media Studies 566S, Arts of the Moving Image

535S. Chinese Media and Pop Culture. ALP, CCI, R One course. C-L: see Asian & Middle Eastern Studies 535S; also C-L: Policy Journalism and Media Studies

540S. Technology and New Media: Academic Practice. SS, STS One course. C-L: see Visual and Media Studies 562S; also C-L: Art History 536S

555S. Physical Computing. QS, STS Seminar in the algorithmic art & aesthetics of the "computational," rather than the "clockwork universe," "artificial life & culture" and both natural and technological "evolutionary computation." Emphasis on the medial physicality of both the underlying processes and the finished work. A critique of art inspired by the complexity of the natural world, art which dynamically instantiates those dynamics in works liberated from the conventional keyboard, mouse and display. Hands-on development of projects using "industrial strength" C/C++ for Windows, analog-to-digital converters and a variety of sensors and actuators in both a computer classroom and a lab workshop. No prerequisites. Instructor: Gessler. One course.

564S. Emergent Embodied Interface Design. ALP, STS One course. C-L: see Visual and Media Studies 564S; also C-L: Arts of the Moving Image 620S

565S. New Media, Memory, and the Visual Archive. ALP, STS One course. C-L: see Visual and Media Studies 565S; also C-L: Policy Journalism and Media Studies

615S. Comparative Media Studies. ALP, STS One course. C-L: see Literature 625S; also C-L: Visual and Media Studies 625S

624S. Post-Digital Architecture. ALP, R One course. C-L: see Literature 624S

650S. Critical Studies in New Media. ALP, R, SS, STS One course. C-L: see Visual and Media Studies 561S; also C-L: Literature 621S, Art History 537S, Arts of the Moving Image, Policy Journalism and Media


666S. Body as the Computer. ALP, NS, R, STS One course. C-L: see Visual Arts 510S; also C-L: Arts of the Moving Image 622S

670. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America. ALP, CCI, STS Influence of new medical technologies (organ transplantation, VR surgery, genetic engineering, nano-medicine, medical imaging, DNA computing, neuro-silicon interfaces) on the American imagination from WWII to the current decade. Examines the thesis that these dramatic new ways of configuring bodies have
participated in a complete reshaping of the notion of the body in the cultural imaginary and a transformation of
our experience of actual human bodies. Instructor: Lenoir. One course. C-L: Literature 623, Philosophy 570,
Genome Sciences and Policy

**673S. Computer Models and the Treatment of Psychiatric Disorders.** NS, QS One course. C-L: see
Psychology 673S; also C-L: Computer Science 673S, Pharmacology and Cancer Biology 673S

**680S. Information Archeology: Studies in the Nature of Information and Artifact in the Digital
Environment.** SS, STS Interdisciplinary exploration of the nature of artifact and evidence, information and
knowledge embedded in structured and unstructured digital data. Critical analysis, research and technology
labs focus on societal and technological implications of data warehousing, Internet archives, analog to digital
conversion, data recovery, and identity theft and management. Instructor: Staff. One course. C-L: Art History
542S, Visual and Media Studies 569S

**ELECTIVES**

**Arts of the Moving Image**
301S. Moving Image Practice
304S. Adapting Literature -- Producing Film
320S. Film Animation Production
332S. Planning the Documentary Film: From Concept to Treatment
390S. Special Topics in Film and Digital Video Production
470S. Advanced Documentary Filmmaking

**Biology**

665L. Models for Environmental Data

**Computer Science**
89S. First-Year Seminar
91. Principles of Computer Science
94. Programming and Problem Solving
101. Program Design and Analysis I
109FS. Minds and Computers: Foundations of Artificial Intelligence
201. Data Structures and Algorithms
241S. Computer Science Seminar
270. Introduction to Artificial Intelligence
308. Software Design and Implementation
316. Introduction to Database Systems
342S. Technical and Social Analysis of Information and the Internet
555. Probability for Electrical and Computer Engineers

**Cultural Anthropology**
256. Islamic Civilization I
419S. Global Environmentalism and the Politics of Nature

**Documentary Studies**
135S. Introduction to Audio Documentary
209S. A Digital Approach to Documentary Photography: Capturing Transience
273S. Planning the Documentary Film: From Concept to Treatment
276S. Adapting Literature -- Producing Film
310S. Intermediate Audio Documentary
390S. Special Topics in Sound Technology
470S. Advanced Documentary Filmmaking

**Economics**
208D. Introduction to Econometrics
271. Basic Finance and Investments
361. Prisoner's Dilemma and Distributive Justice

**Education**
209S. A Digital Approach to Documentary Photography: Capturing Transience

**Electrical and Computer Engineering**
350. Introduction to Computer Architecture
356. Computer Network Architecture
383. Introduction to Robotics and Automation
488. Digital Image and Multidimensional Processing
555. Probability for Electrical and Computer Engineers
557. Performance and Reliability of Computer Networks

**Environment**

*378 Courses and Academic Programs*
665L. Models for Environmental Data

History
210. Islamic Civilization I

Linguistics
208. Philosophy of Mind
250. Symbolic Logic
361. Language Technologies and Culture Acquisition

Literature
390S-9. Special Topics in Science and Culture
622. Science Studies

Mathematics
230. Probability
305S. Number Theory
342. Statistics

Mechanical Engineering and Materials Science
442. Introduction to Robotics and Automation

Medieval and Renaissance Studies
268. Islamic Civilization I

Music
273. Electronic Music: Introduction to Digital Synthesis
273S. Electronic Music: Introduction to Digital Synthesis
274S. Computer Music

Philosophy
204. Foundations of Scientific Reasoning
210. Knowledge and Certainty
212. Philosophy of Mind
246. Prisoner's Dilemma and Distributive Justice
250. Symbolic Logic
538S. Problems in the Philosophy and Policy of Genomics

Physics
271L. Electronics

Political Science
331. Prisoner's Dilemma and Distributive Justice
619. Media and Social Change

Psychology
254. The Creative Mind (C)
667S. Learning and Cognition in Humans, Animals, and Robots

Public Policy Studies
365S. Television Journalism
372. Information, Policy, and Ethics
376S. Telecommunications Policy and Regulation
383S. Advanced Documentary Filmmaking
674. Media and Democracy
676. Media and Social Change

Religion
375. Islamic Civilization I

Russian
361. Language Technologies and Culture Acquisition
516. Media and Social Change

Sociology
214. Cybernetworks and the Global Village
356. Global Contexts of Science and Technology

Statistical Science
101. Data Analysis and Statistical Inference
102. Introductory Biostatistics
111. Probability and Statistical Inference
130. Probability and Statistics in Engineering
230. Probability
250. Statistics

Theater Studies
370S. Moving Image Practice

Visual Arts
206. Digital Imaging
International Comparative Studies (ICS)

Associate Professor Hasso, Director; Lecturer Kirk, Director of Undergraduate Studies; Lecturer Ross, Associate Director of Undergraduate Studies & Coordinator of the Distinction Program. Teaching Fellow Campoamor. Affiliated Faculty: Professors Baker, ex officio (cultural anthropology, sociology, and African and African-American studies) Ramaswamy (history), and Wiegman (literature and women’s studies); Associate Professor Ching (Asian and Middle Eastern studies); Associate Professor of the Practice Broverman (biology); Assistant Professor Göknar (Turkish studies)

A major, but not a minor, is available in this program.

The International Comparative Studies Program offers a Bachelor of Arts degree to students interested in an interdisciplinary individualized major focused on critical transnational studies. The ICS Program mission is to prepare lifelong learners who can live, work, and thoughtfully engage with people and problems in a complex, diverse, and interconnected world. ICS majors gain knowledge in the culture(s), history, politics, and language of one geographic region of the world through Region and Foreign Language coursework. This knowledge based on the multidimensional study of a particular part of the world is complemented by an examination of transnational dynamics through Core and Comparative coursework. Well over 75 percent of ICS majors complete some of their coursework in study abroad programs. Core courses, individualized advising, and research mentoring encourage ICS students to formulate and address questions through a variety of disciplinary approaches.

The courses listed on the following pages include only ICS Core and Comparative courses. The most up-to-date listings of approved Comparative and Region courses are available on the ICS website.

89S. First Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.
101. Introduction to Cultural Anthropology. CCI, CZ, SS One course. C-L: see Cultural Anthropology 101
101D. Introduction to Cultural Anthropology. CCI, CZ, SS One course. C-L: see Cultural Anthropology 101D
102. Introduction to Dance. ALP, CCI One course. C-L: see Dance 101
104. Anthropology and Film. SS One course. C-L: see Cultural Anthropology 130; also C-L: Visual and Media Studies 130, Documentary Studies, Arts of the Moving Image, Marxism and Society
105. Fantasy, Mass Media, and Popular Culture. CCI, R, SS One course. C-L: see Cultural Anthropology 150; also C-L: Visual and Media Studies 105, Documentary Studies, Policy Journalism and Media Studies, Study of Sexualities
108. Religions of Asia. CCI, CZ, EI One course. C-L: see Religion 175
170. Muslim World: Transformations and Continuities. CCI, SS One course. C-L: see Cultural Anthropology 250; also C-L: Religion 380, Women's Studies
190A. Duke-Administered Study Abroad: Special Topics in International Comparative Studies. CCI Topics differ by section. Instructor: Staff. One course.
190S. Selected Topics in International Comparative Studies. Seminar version of International Comparative Studies. Topics vary by semester. Instructor: Staff. One course.

195. Comparative Approaches to Global Issues. CCI, CZ, SS Introduction to critical transnational studies through several disciplinary approaches. Examines capitalism and neo-liberal globalization and their relationships to culture, politics, economics, and other social forms and outcomes; considers transnationalism "from below"; addresses linear and Western-centric thinking about progress and modernity; focuses a historical lens on political discourses, institutions, and projects to understand them contextually; demonstrates how cultures and identities are dynamically constituted in interaction with historical, material, political, and situational factors; considers how different inequalities and contestations inflect most social formations. Instructor: Campoamor or Hasso. One course. C-L: Cultural Anthropology 195, History 103, Political Science 110, Religion 195, Sociology 195, Marxism and Society

203. Gender and Culture. CCI, SS One course. C-L: see Cultural Anthropology 271; also C-L: Women's Studies 217, Marxism and Society, Study of Sexualities, Women's Studies

205. World Military History. CZ, STS One course. C-L: see History 384

206. Pigging Out: The Cultural Politics of Food. CCI, EI, SS One course. C-L: see African and African American Studies 352; also C-L: Sociology 374

207. Gender and Language. CCI, R, SS One course. C-L: see Russian 364; also C-L: Cultural Anthropology 232, Women's Studies 232, Linguistics 364

208S. Transnational Feminism. CCI, EI, R, SS One course. C-L: see Women's Studies 369S

209S. The Atlantic Slave Trade. CCI, CZ, R One course. C-L: see History 316S; also C-L: African and African American Studies 217S, Latin American Studies

210. Languages of the World. CCI, SS One course. C-L: see Linguistics 202; also C-L: Cultural Anthropology 202, Russian 362

212. Representing Slavery. ALP, CCI, EI, SS One course. C-L: see African and African American Studies 314; also C-L: Cultural Anthropology 314, Visual and Media Studies 326

213. Cross-Cultural Perspectives on Human Development: A View From Modern Day Japan and Asia (C,D). CCI, SS One course. C-L: see Psychology 241; also C-L: Cultural Anthropology 249

214. Dance and Religion in Asia and Africa. ALP, CCI, CZ One course. C-L: see Dance 367; also C-L: Religion 244, African and African American Studies 222

215. Gender in Dance and Theatre. ALP, CCI, CZ One course. C-L: see Dance 368; also C-L: Women's Studies 212, Theater Studies 236

218. Postcolonial Novel. ALP, CCI One course. C-L: see English 358

219. Global Art Since 1945. ALP, CCI, CZ, EI One course. C-L: see Art History 281; also C-L: Women's Studies 277, Marxism and Society, Ethics Courses Offered Through Other Departments

221. China and the United States. CCI, CZ, EI One course. C-L: see History 221; also C-L: Asian & Middle Eastern Studies 237, Marxism and Society

222A. Environmental Science and Policy of the Tropics. EI, NS, SS, STS One course. C-L: see Environment 282A

224A. The Cognitive Science of Religion and Morality. CZ, EI, R, W One course. C-L: see Philosophy 232A; also C-L: Religion 281A, Turkish 232A

225S. Portugal, Portuguese-Speaking Africa, and Brazil: Old Problems, New Challenges. CCI, CZ One course. C-L: see Portuguese 361S

226S. The Black Atlantic. ALP, CCI, CZ One course. C-L: see Art History 383; also C-L: African and African American Studies 329

231. Modern Architecture. ALP, CCI, CZ One course. C-L: see Art History 285
231D. Modern Architecture. ALP, CCI, CZ One course. C-L: see Art History 285D; also C-L: Marxism and Society

236. Culture and Politics in Contemporary Europe: Citizenship, Migration, and National Belonging. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 265

237. Europe in the Twentieth Century. CCI, CZ One course. C-L: see History 286

252S. Research Seminar in Citizenship and Culture. CZ, FL, R, W One course. C-L: see Portuguese 332S; also C-L: Latin American Studies

263. The Caribbean in the Eighteenth Century. CCI, CZ One course. C-L: see History 319; also C-L: African and African American Studies 219, Latin American Studies

265. French in the New World. ALP, CCI, CZ, FL One course. C-L: see French 354

270. Eastern Europe in Transition: Markets, Media, and the Mafia. CCI, CZ, SS One course. C-L: see Russian 350; also C-L: Sociology 221, Visual and Media Studies 318, Policy Journalism and Media Studies

277FS. Law and Globalization in Emerging Markets. CCI, SS One course. C-L: see Russian 214FS; also C-L: Public Policy Studies 214FS

277S. Law and Globalization in Emerging Markets. CCI, SS One course. C-L: see Russian 214S; also C-L: Public Policy Studies 214S

279S. Feminist Research. CCI, EI, R, SS One course. C-L: see Women's Studies 380S

290. Selected Topics in International Comparative Studies. CCI Topics vary from semester to semester, focusing either on specific world regions or particular comparative/global issues. Instructor: Staff. One course.

290S. Selected Topics in Comparative Studies. CCI Seminar version of International Comparative Studies 290. Instructor: Staff. One course.

301. Colonial Cinema and Post-Colonial Reflections. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 301; also C-L: Literature 210, Arts of the Moving Image 259

307. Melodrama East and West. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 211; also C-L: Women's Studies 279, Visual and Media Studies 223

309. Japanese Architecture. ALP, CCI, CZ One course. C-L: see Art History 382

320S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: Arts of the Moving Image 246S, African and African American Studies 247S

321. Critical Inter-Asia: Rethinking Local and Global Connections. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 209

322. Ethnic Conflict. CCI, R, SS One course. C-L: see Political Science 368

325. Culture and Politics in Latin America. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 243; also C-L: Documentary Studies, Marxism and Society

327. Introduction to Contemporary Latin America. CCI, CZ One course. C-L: see History 330; also C-L: Latin American Studies 230

329. Elections and Social Protest in Latin America. CCI, CZ, SS One course. C-L: see Political Science 307; also C-L: Latin American Studies 351

333. Introduction to Spanish-American Literature. ALP, CCI, FL One course. C-L: see Spanish 334; also C-L: Latin American Studies

335. Latin-American Literature in Translation. ALP, CCI One course. C-L: see Spanish 361; also C-L: Literature 376, Latin American Studies

337S. What's Lost in Translation? Latin American Theater in English. ALP, CCI, CZ One course. C-L: see Spanish 365S; also C-L: Theater Studies 327S
339D. Latin American Literature in Translation. ALP, CCI One course. C-L: see Literature 375D; also C-L: Spanish 361D

351. Africa and Humanitarians. CCI, CZ, EI One course. C-L: see History 207; also C-L: African and African American Studies 271, Islamic Studies

352. Art, Architecture, and Masquerade in Africa. ALP, CCI, CZ, R One course. C-L: see Visual and Media Studies 208; also C-L: African and African American Studies 228

353. Modern Africa through Film. ALP, CCI, CZ One course. C-L: see History 206; also C-L: African and African American Studies 232

357S. Business and Culture in the Francophone World. CCI, FL One course. C-L: see French 321S

362. Representing the Middle East. CCI, CZ, SS One course. C-L: see Cultural Anthropology 251; also C-L: Asian & Middle Eastern Studies 345, History 213, Turkish 372, Visual and Media Studies 250, Islamic Studies, Policy Journalism and Media Studies

365S. Muslim Women Across the Ages. CCI, CZ, SS, W One course. C-L: see History 225S; also C-L: Women's Studies 209S, Islamic Studies

378. Dance and Dance Theater of Asia. ALP, CCI, CZ One course. C-L: see Dance 356; also C-L: Theater Studies 233, Religion 241

380. Islamic Mysticism: Perso-Indian (Eastern) Traditions. CCI, CZ, EI One course. C-L: see Religion 373; also C-L: Islamic Studies, Ethics Courses Offered Through Other Departments

390A. Duke-Administered Study Abroad: Advanced Special Topics in International Comparative Studies. CCI Topics differ by section. Instructor: Staff. One course.

391. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

392. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic product. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

394. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

395T. BorderWork(s): At Home/On the Wall: between Belfast and Durham. CCI, CZ, R, W One course. C-L: Cultural Anthropology 308T

401S. Doing Good: Anthropological Perspectives on Development. CCI, EI, R, SS One course. C-L: see Cultural Anthropology 428S; also C-L: Public Policy Studies 210S

404. Globalization and Anti-Globalization. CCI, CZ, SS One course. C-L: see Cultural Anthropology 425; also C-L: Markets and Management Studies

404S. Discourse of Disease and Infection. ALP, CCI, CZ, STS One course. C-L: see Asian & Middle Eastern Studies 409S; also C-L: Visual and Media Studies 238S, Arts of the Moving Image 215S

406S. Vampire Chronicles: Fantasies of Vampirism in a Cross-Cultural Perspective. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 413S; also C-L: Women's Studies 231S, Study of Sexualities 231S, Arts of the Moving Image 217S
426. Gender and Sexuality in Latin America. CCI, CZ, SS One course. C-L: see Cultural Anthropology 429; also C-L: Women's Studies 429, Latin American Studies, Marxism and Society, Study of Sexualities
434. Chinese Immigration: Chinese Migrant Labor and Immigration to the US. ALP, CCI, EI, SS One course. C-L: see Asian & Middle Eastern Studies 409; also C-L: Arts of the Moving Image 268
458S. Performing Brazil: Issues of Performative Cultures. ALP, CCI One course. C-L: see Portuguese 490S
459S. 20th Century Latin American Photography. CCI, CZ, FL One course. C-L: see Spanish 433S; also C-L: Art History 433S, Visual and Media Studies 433S, Latin American Studies
460D. Mayas, Aztecs and Incas: The World According to the Indigenous People of Latin America. CZ, EI, R One course. C-L: see Spanish 412D; also C-L: Cultural Anthropology 367D, Latino/a Studies in the Global South 412D
460S. Mayas, Aztecs, and Incas: The World According to the Indigenous People of Latin America. CZ, EI, FL, R One course. C-L: see Spanish 412S; also C-L: Cultural Anthropology 367S, Latino/a Studies in the Global South 412S
461. Dictators and Democrats in Modern Latin America (B). CCI, EI, R, SS One course.
465S. Global Cities. CCI, EI, SS One course. C-L: see African and African American Studies 465S; also C-L: Cultural Anthropology 465S, International Comparative Studies
489S. Capstone Seminar in International Comparative Studies. CCI, CZ, R, SS, W Interdisciplinary seminar for senior ICS majors; uses scholarship, literature and film to revisit key critical transnationalism concepts and themes from ICS gateway at level appropriate for senior experience; writing-intensive, with assignments to facilitate analytical thinking; individual reflection on classroom-, study away-, and work experiences; library research; and engagement with university intellectual and creative environment. Instructors: Campoamor or Kirk. One course.
490. Advanced Topics in International Comparative Studies. Topics vary from semester to semester. Instructor: Staff. One course.
490S. Advanced Seminar in Topics in International Comparative Studies. Topics vary from semester to semester. Instructor: Staff. One course.
495S. Senior Honors Seminar. CCI, CZ, R, SS, W First semester of a two course sequence. Open to seniors pursuing Distinction in International Comparative Studies. Course supports beginning stages (project design, research, draft composition) of an interdisciplinary research-based project on a question of interest relevant to critical transnationalism. Course fulfills senior capstone requirement for ICS. Consent of instructor based on application and project proposal. Instructor: Ross. One course.
496S. Senior Honors Seminar. CCI, CZ, R, SS, W Continuation of International Comparative Studies 495S. Open to seniors majoring in International Comparative Studies. Consent of instructor required. Instructor: Ross. One course.
511S. Political Participation: Comparative Perspectives. CCI, SS One course. C-L: see Political Science 509S
512S. Current Issues in International and Development Economics. SS, W One course. C-L: see Economics 568S; also C-L: Canadian Studies
521S. International Environmental Regimes. EI, SS, STS One course. C-L: see Political Science 545S; also C-L: Public Policy Studies 581S, Energy and the Environment
527S. Music in Literature and Philosophy. ALP, CCI, R One course. C-L: see German 580S; also C-L: English 580S
545S. Millennial Capitalisms: Global Perspectives. CCI, CZ, R, SS One course. C-L: see Cultural Anthropology 530S
601S. Comparative Party Politics. CCI, R, SS One course. C-L: see Political Science 522S; also C-L: Canadian Studies
613S. Third Cinema. ALP, CCI, EI, SS, STS One course. C-L: see Literature 613S; also C-L: African and African American Studies 530S, Latin American Studies 613S, Arts of the Moving Image 644S

THE MAJOR

The ICS major is divided into four categories: (1) Core courses are taught by ICS faculty members and include the required gateway (first or second year), the required capstone (senior year), and for students in excellent academic standing who wish to complete a lengthy supervised research project, the two-semester senior year thesis sequence. (2) Region courses focus on a particular geographic area of the world. (3) Comparative courses focus on global and transnational issues. (4) Foreign Language courses build expertise in one language related to a student’s Region focus. Region, Comparative, and Foreign Language courses are offered by faculty members in many of the university’s academic programs and departments, as well as in study away programs. Each ICS major must complete a Curricular Plan, updated with and approved by an ICS adviser each semester, to assure they are on track toward fulfilling major requirements.

Major Requirements: Ten courses (Core, Region, and Comparative) at least eight of which must be at or above the 200 level and at least two of which must be at or above the 400 level. An additional four Foreign Language Co-requisite courses in one language, initiated at any level. Region or Comparative courses may not be below the 100 level. The ICS gateway course fulfills one of the 100-level requirements and the ICS capstone course fulfills one of the 400-level or above requirements. Successful completion of the first semester of the ICS honors thesis sequence fulfills the capstone requirement. The second semester of the thesis sequence does not exempt majors from the second 400-level or above course requirement. The fourteen courses for the major are to be distributed as follows:

• **Gateway Course:** Comparative Approaches to Global Issues (ICS 195). This course is offered in fall and spring semesters. Whether or not they major in ICS, students are expected to complete the course in the first or second year of study. Students who plan to be ICS majors are expected to complete the course before a study-away semester. Juniors who are majors in ICS may petition the DUS to take the course in exceptional circumstances, although course enrollment is capped at 49 and waitlists are honored. The course is cross-listed in ACES by the departments of cultural anthropology, sociology, history, religion, and political science (the course number under which a student enrolls is irrelevant). ICS 195 is a prerequisite for ICS 489S, the ICS capstone seminar.

• **Region Concentration (4 courses):** To gain some historical, political, and cultural knowledge depth related to one part of the world, ICS majors choose a Region concentration and complete four courses chosen from ICS-approved Region courses. The most up-to-date Region courses are available on the ICS website. Region courses are generally not assigned an ICS number in ACES, although they will have such a number if they also meet ICS Comparative criteria.

Criteria for ICS Region courses: Content is focused on cultural, social, historical, political, economic, and/or identity dynamics; is theoretically informed and empirically engaged with fieldwork, archives, literary, artistic, and cultural artifacts or processes, and/or statistical data; is largely focused on a particular place or region; and examines dynamics that occurred at any time from 1700 to the present, although it may include content that began in earlier periods.

ICS Regions: ICS students choose a Region Concentration from the following seven geographic options: Africa; China and East Asia; Europe; Latin America and the Caribbean; Middle East; Russia and Central Asia; and South Asia. Alternatively, an ICS major may propose to the DUS a
differently conceptualized geographic region focused on a part of the world not captured in or crossing these region designations, for example, around a body of water or proximal borders. Cases made for such independently conceived areas must be thoughtful and intentional rather than ad hoc. The seven ICS regions are based on historical, cultural, political and/or economic histories of connection. At the same time, the ICS intellectual project understands that state borders and regions are dynamically produced by different processes and agendas, including transnational. It also recognizes dramatic variety within these regions.

**Interdisciplinarity:** The four Region courses chosen must come from at least two disciplinary or interdisciplinary homes. The disciplinary home is determined by the originating departmental sponsor of the course. ICS Region courses are listed according to disciplinary home on the ICS website.

**Double Counting:** One advanced foreign language course may double count toward a major’s Region concentration if its content meets Region criteria.

**Study Away Courses in a Foreign Language:** Content courses offered in an advanced level of a foreign language at a study-away institution can count toward a major’s Region concentration if they meet Region criteria.

- **Comparative Courses (4):** ICS majors complete four courses chosen from ICS-approved Comparative courses. The most up-to-date lists of ICS Comparative courses are available on the ICS website. Comparative courses are typically assigned an ICS number in ACES, but are listed and organized according to the original disciplinary or interdisciplinary home on the ICS website.

  **Criteria for Comparative courses:** Content is organized by a connective, transnational, comparative, or international approach to cultural, social, historical, political, economic, environmental, or discursive dynamics. Courses approach the above through one or more of the following *nodes*: (1) institutions, organizations, or systems; (2) identities and lived experiences; (3) circulations, circuits, borders, and migrations; (4) social or other movements; (5) cultural productions and receptions. By definition, course content should not be delimited by a focus on one place or nation-state. Course content is theoretically informed and empirically engaged (ethnography, observation, interviews, archives, surveys, and statistical data; institutional, literary, artistic, cultural, commercial, or environmental artifacts, processes, or forms). Course content examines dynamics that occurred at any time from 1700 to the present, although it may include content that began in earlier periods.

  **Interdisciplinarity:** The four Comparative courses chosen must come from at least two disciplinary or interdisciplinary homes. Disciplinary home is determined by the originating departmental sponsor of the course. ICS Comparative courses are listed according to disciplinary home on the ICS website.

- **Foreign Language Co-requisite (4 courses):** Because language knowledge is crucial to deeper historical, political and cultural understanding, as well as social and professional functioning in a variety of settings, the ICS major requires two years (four full courses) of university courses in one non-English language used by a group in part or all of the geographic Region concentration. College Board, IB, or other pre-university language courses, knowledge, or exams cannot be counted toward this co-requisite. Language courses used to fulfill the co-requisite can begin at any level. Barring other restrictions, students should count toward the ICS major the most advanced university language courses taken. Barring other restrictions, unlimited content courses offered in one foreign language may count toward the Foreign Language co-requisite. Language courses can be found in their sponsoring departments and will not be listed by ICS numbers in ACES, nor are specific language courses archived or listed on the ICS website.

  **Double Counting:** One advanced language course may double count in the appropriate Region or
Comparative category if its content meets ICS Region or Comparative criteria, whether the course is offered on Duke’s campus or is an approved study away course.

**Research Methods:** In certain situations, such as when a student is fluent in a non-English language widely used in the chosen Region concentration, one of the Foreign Language courses may be met with a research methods or research analysis course.

**Additional Notes:** Although the foreign language co-requisite is not flexible, in certain cases there is reasonable flexibility in regard to the language used to fulfill it. Examples of such cases: 1) when a second year of a language is not taught at Duke; 2) when no language course is available at a sufficiently advanced level. In such cases students should consult their ICS DUS and adviser to work out an alternative plan for satisfying the Foreign Language co-requisite.

- **Capstone Seminar:** Capstone Seminar in International Comparative Studies (ICS 489S). At least one section of this seminar is offered each fall and spring semester. The seminar is restricted to declared ICS majors in their final year or semester (for December graduates) of study. ICS 195 is a prerequisite for ICS 489S.

**ICS Advising & ICS Curricular Plan:** After a student has formally declared an ICS major, the DUS will assign the student an ICS faculty adviser. After declaring an ICS major, each student is **required** to complete an ICS Curricular Plan (blank forms are available on the ICS website). In order to assure the accuracy of each student’s Curricular Plan and that each ICS student is on track for timely completion of major requirements, each ICS major is responsible for meeting with their ICS adviser to update an individualized Curricular Plan **every semester before registration**. Students who are abroad often communicate with their ICS advisers before registration through e-mail or Skype. This requirement to update a Curricular Plan every term holds true for all declared ICS majors, including second majors and students who plan to study abroad the following semester, unless they have completed all ICS requirements and such completion is reflected on an updated and approved Curricular Plan. Because of the interdisciplinary nature of the ICS major, having an accurate and up-to-date Curricular Plan on file with the Program is the **single most important administrative aspect for a successful Senior Clearance** before commencement.

**Study Abroad:** ICS students are strongly encouraged to study away, and a large majority of ICS majors complete some part of their coursework in study abroad programs. Students considering or planning to major in ICS are expected to complete the required gateway course, ICS 195, **before a study abroad semester**. Up to four full credit study away or transfer courses that meet ICS Region, Comparative, or Foreign Language criteria may count toward the major. Students who declare an ICS major are required to complete an ICS Curricular Plan with an adviser **before leaving for a study abroad program**. The ICS gateway, capstone and thesis courses must be taken at Duke and may not be substituted with study abroad courses. ICS considers any study abroad course determined to meet Region or Comparative criteria to be at the intermediate level, or between 200 and 399 in the university numbering system. Further important information on Study Abroad requirements and policies is available on the ICS website.

**Grants and Awards:** Duke students who are not graduating seniors are eligible to apply for research funding provided by several units on campus. See the Undergraduate Research Support Office website for more information: [http://undergraduate/research.duke.edu/](http://undergraduate/research.duke.edu/). In addition, rising seniors accepted into the ICS honors thesis seminar sequence may apply for a summer travel grant to advance language learning and/or field research that is funded by the Scott Lee Stephenson Memorial Fund. The author of the best ICS distinction project is recognized with the Annual ICS Distinguished Thesis Award.

**Departmental Graduation with Distinction**

ICS offers a Graduation with Distinction program for majors whose achievements in university coursework and co-curricular experiences have prepared them to complete an interdisciplinary research-based project on a question of interest relevant to the critical transnationalism focus of the ICS Program.
Structure: A two-semester seminar sequence (ICS 495S and ICS 496S), taken fall and spring of senior year, supports the completion of the distinction project. Each student chooses a Duke faculty member qualified and willing to mentor the student on the project topic to serve as a research supervisor, and is guided through a multi-stage writing process by the ICS faculty member teaching the seminar sequence. Under most circumstances, the product is a completed thesis of 70 to 100 pages on a topic relevant to ICS’s focus on critical transnationalism. Students may work in, with, and through different mediums, but all are required to complete a research-based and interdisciplinary piece of writing and to submit the project in electronic and paper forms. The completed project is submitted for evaluation to the ICS Distinction Committee by early April of the senior year.

Coursework: Successful completion of ICS 495S in fall term fulfills the major requirement for ICS 489S, the senior capstone course. Students must complete 11 non-Foreign Language courses to graduate with distinction in the major instead of the standard 10.

Application: To apply for admission to the honors seminar sequence a student must complete, by the end of the junior year, a substantial portion of the major (roughly 11 courses, including foreign language), must have strong academic achievement (at least 3.3 GPA) in all the courses completed for the major, and must have an updated and approved ICS curricular plan on file with the program. Applications from interested juniors are due on Monday or Tuesday after spring break. The application includes a project proposal (about 5 pages) and initial bibliography (of 1-2 pages), along with a letter of recommendation from a Duke faculty member qualified and willing to serve as the research supervisor. Ideally, this faculty member should be someone who has worked with the student in a classroom setting. It is particularly important to have taken at least one university course that provides foundational knowledge on the topic of the proposed research project and to have taken at least one university course that required completion of an independent research paper (on any topic). The ICS Distinction Program Coordinator, Dr. Cheri Ross, can provide assistance on conceptualizing an ICS honors project. Further details on the application process, including specific deadlines, are available on the ICS website.

Levels of Distinction and Evaluation Procedure: Three levels are possible: Distinction, High Distinction, or Highest Distinction. Levels of distinction, based on the quality of the completed work, are determined by the ICS Distinction Committee in consultation with the student’s research supervisor. Students who have done satisfactory work in the honors seminars but whose thesis is denied distinction will receive graded credit for the coursework.

Double Honors: While the ICS Program does not allow students to pursue double honors (i.e., complete a single interdisciplinary thesis for two different departments), each ICS student in the Distinction Program is expected to produce an interdisciplinary thesis project.

Further details on deadlines, schedules, and expectations for Graduation with Distinction in ICS are available on the ICS website.

Islamic Studies (ISLAMST)

Professor of the Practice Merkx, Director

A certificate, but not a major, is available in this program.

The undergraduate certificate in Islamic Studies is administered by the Duke Islamic Studies Center (DISC). This interdisciplinary certificate is designed to provide students with comparative, historical, and cultural knowledge of the Muslim world; working knowledge of a Muslim language acquired through two years of language study; and cross-cultural exposure gained through a study abroad experience in a Muslim-majority country. The program allows students to draw on the strength and scope of Duke’s offerings in Islamic Studies, as well as on complementary courses offered at UNC-Chapel Hill, which also has a strong program in Middle Eastern/Islamic Studies. The program is designed to educate students about Islamic cultures, beliefs, and practices so they are prepared upon graduation to engage the Muslim world knowledgeably and productively in their professional careers or prepared to pursue graduate study. The program is designed to be rigorous enough to ensure that students who fulfill its requirements will have language skills and a breadth
of knowledge about Islam and the Muslim world not possible within other majors or minors, yet broad and flexible enough to allow students to develop a sequence of courses that will complement their major field of study.

The approach to Islamic Studies at Duke represents a new paradigm for studying the Muslim world in which Islam is understood as a cosmopolitan tradition that is radically networked (i.e., connected across recognized boundaries). Thus, students pursuing a certificate in Islamic Studies are encouraged to investigate Islamic civilization through the rubric of Muslim networks that transcend geographic, linguistic, historical, sociocultural, and disciplinary boundaries. Participating departments include Asian and Middle Eastern Studies, Cultural Anthropology, International Comparative Studies, Economics, History, Literature, Political Science, Religion, Slavic and Eurasian Studies (Turkish and Persian), and Sociology.

In addition to coordinating the certificate program, the Duke Islamic Studies Center also sponsors lectures and conferences that bring prominent American and international Islamic Studies scholars, artists, writers, and performers to Duke; coordinates a Muslim Cultures Focus cluster; and promotes cross-cultural exchange between Western and Islamic students and other members of the Duke community.

PROGRAM REQUIREMENTS

Students interested in earning a certificate in Islamic Studies are encouraged (but not required) to declare it by their fifth semester.

To earn an undergraduate certificate in Islamic Studies, students must complete six (6) courses, as well as the foreign language and study abroad components described below:
2. a capstone seminar: Muslims in Global Contexts, taken as a junior or senior, which will include a significant research component. (Currently, an advanced undergraduate research seminar is identified to meet the capstone requirement)
3. Four (4) additional elective courses, two of which must be at the 200 level or above. In order to ensure that students develop an understanding of Islam as a global, networked tradition and of the interdisciplinary nature of Islamic Studies, at least three departments must be represented in the elective courses selected to fulfill certificate requirements. The elective course sequence must include at least one religion course and one social science course. No more than two (2) courses may be used to fulfill requirements for the certificate and the student’s major, minor, or other certificates. Appropriate courses may come from the list of approved elective courses below or may include other courses (new courses, special topics courses, independent study) with at least 50 percent of course content on Islam or the Muslim world. To determine if specific courses meet requirements for the certificate, students should consult the faculty director. New faculty have recently been hired in Economics, Cultural Anthropology, Sociology, History, and Political Science, so students should check for new Islamic Studies courses in those departments. The Duke Islamic Studies Center plans to regularly offer a “Muslim Cultures” Focus cluster and the two Focus seminars will count toward the Islamic Studies certificate. Students enrolled in the certificate program may take up to two (2) of their required electives for the certificate at UNC-Chapel Hill.
4. Language Requirement: In addition to the six required Islamic Studies courses, certificate recipients will be required to complete two years of study in an Islamic language (i.e., a language spoken in a majority-Muslim country). Students with enough language proficiency to place into a higher than elementary-level language course must take at least one applicable language course at the 300 level. Muslim languages include Arabic, Turkish, or Persian (available at Duke) or Persian, Urdu, or Swahili (available at UNC-Chapel Hill).
5. Required international experience in a majority-Muslim country. Internships, Study Abroad, or DukeEngage programs in majority-Muslim countries will all satisfy this requirement. To enroll in the certificate program, students should officially declare their intention to pursue the certificate through the Academic Advising Center (first- and second year students) or through
the Office of the University Registrar (sophomores who have already declared a major, juniors and seniors) and then contact the Associate Director of the Duke Islamic Studies Center.

REQUIRED COURSES
Core Course
One of the following two courses:
Religion 375. Islamic Civilization I (seventh–sixteenth centuries; cross-listed in History, Cultural Anthropology, Medieval/Renaissance Studies)
Religion 376. Islamic Civilization II (seventeenth century–present).

Capstone Course
Religion 390S. Muslims in Global Contexts or other DISC-approved upper-level seminar

ELECTIVES
African and African American Studies
211. History of Africa: From Antiquity to Early Modern Times
271. Africa and Humanitarians
274S. Islam in the Americas
575. Justice, Law, and Commerce in Islam
Arabic
501S. Translation as a Research Tool in Arabic and Islamic Studies
502S. Classical Arabic Texts
Arts of the Moving Image
248. Movies of the World/The World of Movies
249S. States of Exile and Accented Cinemas
257. Contemporary Israeli Cinema
Asian & Middle Eastern Studies
109. War, Gender, and Postcoloniality
183FS. The Palestinian-Israeli Conflict in Literature and Film
215S. The Middle East in Popular Culture
220S. Al-Qaeda's Terrorism: Roots, Responses, and Ramifications
221. Arab Society and Culture in Film
222S. Syrian and Iraqi Cultures and Revolutions
225. Egypt: Mother of the World
227. The Modern Middle East
241. Contemporary Israeli Cinema
243. Jerusalem: Past and Present
283S. The City of Two Continents: Istanbul in Literature and Film
319. Palestine, Israel, Arab-Israeli Conflict
322. Mystical Literature
323S. Gender Jihad: Muslim Women Writers
325. Islamic Awakening: Revival and Reform
339. Introduction to Islamic Communities in North Carolina
345. Representing the Middle East
382. Orhan Pamuk and World Literature
422S. Arab Women Writers
423. Arabic Culture and 9/11
625. Islamic Awakening: Revival and Reform

Cultural Anthropology
251. Representing the Middle East
252. Muslims in the West
253. Palestine, Israel, Arab-Israeli Conflict
256. Islamic Civilization I
257. Islamic Civilization II
405. Religion and Social Transformation in South Asia
416S. Capstone Seminar: Imperialism and Islamism
417S. The Middle East in Popular Culture
423. Sex and Money
426S. Anthropology of Space
4308. Travel, Gender, and Power
Documentary Studies
359S. Islam and the Media

Economics
306. Economic History and Modernization of the Islamic Middle East
326. Islam and the State: Political Economy of Governance in the Middle East

Environment
216S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

German
511S. Theory and Practice of Literary Translation

History
155S. Gateway Seminar: The United States and the Middle East
158S. Gateway Seminar: Islam and Nationalism
203. History of Africa: From Antiquity to Early Modern Times
207. Africa and Humanitarians
209. Islam in Central Eurasia
210. Islamic Civilization I
211. Islamic Civilization II
212. The Turks: From Ottoman Empire to European Union
213. Representing the Middle East
214. The Modern Middle East
216S. Journey to Eurasia
225S. Muslim Women Across the Ages
249. The Crusades to the Holy Land
351. Islam in the Americas
453S. Capstone Seminar: Imperialism and Islamism

International Comparative Studies
351. Africa and Humanitarians
362. Representing the Middle East
365S. Muslim Women Across the Ages
380. Islamic Mysticism: Perso-Indian (Eastern) Traditions

Jewish Studies
183FS. The Palestinian-Israeli Conflict in Literature and Film
230. Jerusalem: Past and Present
241. Contemporary Israeli Cinema
249. The Crusades to the Holy Land
258. The Modern Middle East
283. Palestine, Israel, Arab-Israeli Conflict

Literature
217. Contemporary Israeli Cinema
235S. Anthropology of Space
313. Movies of the World/The World of Movies
314S. States of Exile and Accented Cinemas
640S. Theory and Practice of Literary Translation

Medieval and Renaissance Studies
262. The Crusades to the Holy Land
268. Islamic Civilization I
269. Islamic Civilization II
659. Justice, Law, and Commerce in Islam

Political Science
117D. Democracy, Development, and Violence: Introduction to Comparative Politics
182FS. Introduction to Middle East Politics
308. Islam and the State: Political Economy of Governance in the Middle East
322. Introduction to Middle East Politics
351. Economic History and Modernization of the Islamic Middle East
354. Politics in the Developing World
358. Globalization and Public Policy
362D. International Security
367S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

Public Policy Studies
212. Globalization and Public Policy
279S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding
388S. Islam and the Media

Religion
392 Courses and Academic Programs

160. Islam
165FS. Muslim Women across the Ages
219S. Muslim Women Across the Ages
225. Religion and Social Transformation in South Asia
228. The Turks: From Ottoman Empire to European Union
230. Jerusalem: Past and Present
263. Mystical Literature
274FS. Religion & Politics: The Middle East Today
370FS. Qur'an Over Time
370S. Qur'an Over Time
372. Islamic Awakening: Revival and Reform
373. Islamic Mysticism: Perso-Indian (Eastern) Traditions
374S. Muslim Philosophy and Theology, an introduction
375. Islamic Civilization I
376. Islamic Civilization II
378. Islam in Central Eurasia
384S. Islam in the Americas
385. Muslims in the West
386. Introduction to Islamic Communities in North Carolina
388S. Muslim Ethics and Islamic Law: Issues and Debates
660. Justice, Law, and Commerce in Islam
662S. Muslim Networks Across Time and Space
663. Islam and Modernism
664. The Religion and History of Islam

Russian
210FS. Islam and Orthodoxy
210S. Dervishes, Saints and Other Holy Fools
370. Islam in Central Eurasia
384. Movies of the World/The World of Movies

Slavic and Eurasian Studies
209FS. Geopolitics & Globalization: From Bosnia to Afghanistan
279FS. Turkey: Muslim and Modern
345. Orhan Pamuk and World Literature
370. Islam in Central Eurasia
373S. Journey to Eurasia

Sociology
345. Nations, Regions, and the Global Economy
480S. Sociology of the Middle East
482S. Gender, Labor, and Globalization

Study of Ethics
235S. Muslim Philosophy and Theology, an introduction

Turkish
112. Accelerated Turkish Language and Culture I
209FS. Geopolitics & Globalization: From Bosnia to Afghanistan
213. Accelerated Turkish Language and Culture II
279FS. Turkey: Muslim and Modern
305S. The Middle East through Historical Literature
307S. The City of Two Continents: Istanbul in Literature and Film
308. The Turks: From Ottoman Empire to European Union
345. Orhan Pamuk and World Literature
371S. Tracing Muslim Identities in Eurasia
372. Representing the Middle East
607S. The City of Two Continents: Istanbul in Literature and Film
608. The Turks: From Ottoman Empire to European Union

Visual and Media Studies
250. Representing the Middle East

Women's Studies
209S. Muslim Women Across the Ages
214. Contemporary Israeli Cinema
280S. Anthropology of Space
430S. Travel, Gender, and Power
SPECIAL TOPICS COURSES, OFFERED PERIODICALLY

Literature
49S. Film and Visual Culture
97FCS. Islam and Comparative World Cinema (Focus Seminar)
97FCS. Love and Sexuality: Coming of Age Films from the Muslim World (Focus Seminar)
125. Gender and Representation—The Middle East
292. Film and the Foreign: Contemporary Iranian Cinema in Focus

Political Science
117.02 Introduction to Middle East Politics
299. Religion, Politics, and Violence

Religion
89FCS. Allah, Sex, and Money (Focus Seminar)
89FCS Fundamental Challenges: Islam, Human Rights, Terrorism (Focus Seminar)
89FCS. The Qur’an Over Time (Focus Seminar)
185. Islam in the West
196S. Islamic Law and Ethics
196S. Good Muslim, Bad Muslim: Debates in Muslim Law and Ethics
245S. Madrasas, Maps, and Money: The Geopolitics of Islamic Knowledge

Sociology
195S. Gender, Labor, and Globalization
195S. Sociology of the Middle East

Italian
For courses in Italian, see “Romance Studies (ROMST)” on page 565.

Japanese
For courses in Japanese, see “Asian and Middle Eastern Studies (AMES)” on page 161.

Jewish Studies (JEWISHST)
Professor E. Meyers (religion), Director; Professor Lieber (religion), Assistant Director and Director of Undergraduate Studies; Professors Golding (philosophy), Goldman (religion), and C. Meyers (religion); Associate Professors Donahue (German), Hacohen (history), Lieber (religion), and Stein (cultural anthropology); Assistant Professor Ginsburg (Asian and Middle Eastern studies); Visiting Assistant Professor Y. Miller (history); Instructor Plessner (Asian and Middle Eastern studies)

A certificate, but not a major, is available in this program.

This program is sponsored by the interdisciplinary Duke Center for Jewish Studies. Participating departments and programs include Asian and Middle Eastern studies, classical studies, international comparative studies, cultural anthropology, English, Germanic languages, history, medieval and renaissance studies, political science, religion, and women's studies. A full range of courses is available in classical and modern Hebrew. Also, relevant courses in Jewish studies may be taken at nearby UNC-Chapel Hill.

The certificate program offers students the flexibility to design, with the aid of a faculty advisor, a curriculum that meets individual interests and talents.

CERTIFICATE REQUIREMENT
Six courses are required for the certificate, including Religion 140 (Introduction to Judaism) and an independent study to be arranged in consultation with the Director of Undergraduate Studies. Four courses must be at or above the 200 level. Not more than three courses in Religion may count for the certificate. One (semester) Hebrew language course may count toward the certificate.

89S. First Year Seminar. Topics vary by semester. Instructor: Staff. One course.
101. Elementary Modern Hebrew. FL One course. C-L: see Hebrew 101
102. Elementary Modern Hebrew. FL One course. C-L: see Hebrew 102
105. Biblical Hebrew I. FL One course. C-L: see Religion 105; also C-L: Hebrew 171
106. Biblical Hebrew II. FL One course. C-L: see Religion 106; also C-L: Hebrew 172

Italian 393
394 Courses and Academic Programs

140. Judaism. CCI, CZ One course. C-L: see Religion 140; also C-L: Women's Studies

140S. Judaism. CCI, CZ One course. C-L: see Religion 140S; also C-L: Women's Studies

145. The Old Testament/Hebrew Bible. CCI, CZ, EI One course. C-L: see Religion 145; also C-L: Ethics Courses Offered Through Other Departments

183FS. The Palestinian-Israeli Conflict in Literature and Film. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 183FS; also C-L: Islamic Studies

185. Introduction to Israeli Culture. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 145; also C-L: Religion 185


203. Intermediate Modern Hebrew. ALP, FL One course. C-L: see Hebrew 203

204. Intermediate Modern Hebrew. ALP, CZ, FL One course. C-L: see Hebrew 204

230. Jerusalem: Past and Present. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 243; also C-L: Religion 230, Islamic Studies

241. Contemporary Israeli Cinema. ALP, CCI, EI One course. C-L: see Asian & Middle Eastern Studies 241; also C-L: Arts of the Moving Image 257, Literature 217, Women's Studies 214, Islamic Studies

249. The Crusades to the Holy Land. CCI, CZ, R One course. C-L: see History 249; also C-L: Medieval and Renaissance Studies 262, Islamic Studies

251. Jewish History, 1492 to the Present. CCI, CZ, EI, SS One course. C-L: see History 251; also C-L: Religion 340, Ethics Courses Offered Through Other Departments

253. Archaeology and Art of the Biblical World. ALP, CCI, CZ, EI One course. C-L: see Religion 250

258. The Modern Middle East. CCI, CZ One course. C-L: see History 214; also C-L: Asian & Middle Eastern Studies 227, International Comparative Studies, Islamic Studies

266. Screening the Holocaust: Jews, WWII, and World Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 341; also C-L: Arts of the Moving Image 263

267. Representing the Holocaust. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 343; also C-L: Religion 267

269S. Fragmented Memories: Polish and Polish Jewish Culture Through Film. ALP, CCI, CZ, EI One course. C-L: see Polish 308S; also C-L: Religion 269S

271. Women in the Biblical Tradition: Image and Role. CCI, CZ, EI One course. C-L: see Religion 271; also C-L: Women's Studies

283. Palestine, Israel, Arab-Israeli Conflict. CCI, EI, SS One course. C-L: see Cultural Anthropology 253; also C-L: Asian & Middle Eastern Studies 319, Islamic Studies

305S. Advanced Modern Hebrew. ALP, CCI, FL One course. C-L: see Hebrew 305S; also C-L: International Comparative Studies

306S. Advanced Modern Hebrew. ALP, CCI, FL One course. C-L: see Hebrew 306S

331. Classical Judaism, Sectarianism, and Early Christianity. CCI, CZ One course. C-L: see Religion 231

335. Jewish Mysticism. CZ, EI One course. C-L: see Religion 335; also C-L: Medieval and Renaissance Studies 340, Ethics Courses Offered Through Other Departments

341. Jewish Ethics. CCI, CZ, EI One course. C-L: see Religion 341; also C-L: Ethics Courses Offered Through Other Departments

342. The Holocaust. CCI, CZ, EI, STS One course. C-L: see History 297; also C-L: Religion 342, Political Science 262

345. Contemporary Jewish Thought. CCI, CZ, EI One course. C-L: see Religion 345
347S. Women in Judaism. CCI, CZ, EI, W One course. C-L: see Religion 347S
350S. Zionism: Jewish and Christian Aspects. CCI, CZ, EI, SS One course. C-L: see Religion 350S; also C-L: Asian & Middle Eastern Studies 350S
367A. Jewish Berlin. ALP, CCI, CZ, EI One course. C-L: see German 367A; also C-L: Literature 367A, International Comparative Studies
368. German Jewish Culture from the Enlightenment to the Present. ALP, CCI, CZ One course. C-L: see German 368; also C-L: Literature 368
369. Germany Confronts Nazism and the Holocaust. ALP, CCI, CZ, EI One course. C-L: see German 387; also C-L: Literature 369
390. Special Topics in Jewish Studies. Topics vary from semester to semester. Instructor: Staff. One course.
407S. Issues in Modern Hebrew. ALP, CCI, FL One course. C-L: see Hebrew 407S
459S. Capstone Seminar: History of Zionism and the State of Israel. CCI, CZ, EI, R, SS One course. C-L: see History 451S
483. The Palestinian-Israeli Conflict in Literature and Film. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 403; also C-L: International Comparative Studies
485. Internship: Hospital-Jewish Approaches to Visiting the Sick. EI Internship: Hospital-Jewish Approaches to Visiting the Sick. The Jewish practice of bikkur holim (visiting the sick) examined in readings and hospital visits with clinical and pastoral supervision. Readings and discussions focusing on: historical, ritual and ethical aspects of comforting the ill. Research paper required. Required participation in service-learning. Instructor: Tulsky. One course.
550. Archaeology of Palestine in Hellenistic-Roman Times. CCI, CZ, STS One course. C-L: see Religion 550
607. Hebrew Prose Narrative. FL One course. C-L: see Religion 607
609. Rabbinic Hebrew. FL One course. C-L: see Religion 609
610. Readings in Hebrew Biblical Commentaries. One course. C-L: see Religion 610
683. The Palestinian-Israeli Conflict in Literature and Film. One course. C-L: see Asian & Middle Eastern Studies 603

Opportunities for independent study are also offered in various related departments. Procedures for registration and applications are available in 230 Gray Building.

For further information, contact the director of the Center for Jewish Studies, Box 90964, Durham, NC 27708-0964.

Korean

For courses in Korean, see “Asian and Middle Eastern Studies (AMES)” on page 161.

Latin

For courses in Latin, see “Classical Studies (CLST)” on page 209.
Latin American Studies (LATAMER)

Dr. Jenson, Director

A certificate, but not a major, is available in this program. The program in Latin American Studies, which is administered by the Center for Latin American and Caribbean Studies (CLACS), provides students with the opportunity for interdisciplinary, in-depth study of the realities of Latin American and Caribbean societies and cultures. In addition to offering a certificate and a wide array of area studies and language courses, CLACS also sponsors lectures, Mellon Visiting Professors, and an annual competition for Mellon Undergraduate Summer Research Awards in Latin America or the Caribbean. Moreover, the Center and the Institute for the Study of the Americas at UNC-Chapel Hill sponsor the Consortium in Latin American Studies at the University of North Carolina at Chapel Hill and Duke University, which provides opportunities for collaboration with faculty and students from both campuses who are interested in the region. The Consortium sponsors yearly faculty exchanges between the two institutions, joint undergraduate seminars, and an annual Latin American Film Festival.

Students interested in earning a certificate in Latin American Studies are encouraged to declare it by completion of their fifth semester. Students may also elect this interest in Latin America while participating in a Duke-approved study abroad program either during a summer or during their junior year. Duke in the Andes in Quito, Ecuador is a new program as of spring 2007. Opportunities for study abroad in other countries are also available.

For further information consult the Assistant Director of the Center for Latin American and Caribbean Studies located in the John Hope Franklin Center, 2204 Erwin Rd.

CERTIFICATE IN LATIN AMERICAN STUDIES

The course of study for program participants is intended to be interdisciplinary. Students working toward a certificate in Latin American Studies will declare a major in an academic department. To qualify for the certificate, students take "Introduction to Contemporary Latin America" (Latin American Studies 230), the interdisciplinary capstone seminar (Latin American Studies 498S), fulfill the indicated language requirement, and take three additional area courses, two of which must be at or above the 200 level. Also, at least three different departments must be represented overall, with no more than three courses counting from one single department or major. The language requirement can be fulfilled in one of three ways: 1) by taking three language courses below the 300 level in any one of the most commonly taught languages spoken in Latin America: Spanish, Portuguese, French; 2) by taking one course taught in any one of these languages at the 300 level or above; or 3) by taking two courses in any one of the less commonly taught Latin American languages (such as Haitian Creole, Aymara, Quechua, Yucatec Maya). A Summer Intensive Yucatec Maya Language Program is also offered through the Consortium in Latin American Studies and Haitian Creole is now offered at Duke.

Appropriate courses may come from the list given below, or may include other courses not listed below (new courses, special topics courses, and independent study) with at least 50 percent of course content on a Latin American topic and with term papers or other major projects focusing on a Latin American subject. To determine if specific courses meet requirements for the certificate, students should consult the Assistant Director. Regular courses are described under the listing of the various departments. Students may also wish to take advantage of house courses offered on Latin American topics although house courses cannot satisfy the requirements of the certificate.

Eligible undergraduates satisfying the certificate may use no more than two courses that are also used to satisfy the requirements of any major, minor, or other certificate program. International Comparative Studies majors and minors interested in choosing Latin America as their primary area of concentration within that major or minor should consult the director of comparative area studies.

230. Introduction to Contemporary Latin America. CCI, CZ One course. C-L: see History 330; also C-L: International Comparative Studies 327
290A. Duke-Administered Study Abroad: Special Topics in Latin American Studies. CCI Topics differ by section. Instructor: Staff. One course.

351. Elections and Social Protest in Latin America. CCI, CZ, SS One course. C-L: see Political Science 307; also C-L: International Comparative Studies 329

360S. Geographies of the Erotic: Brazilian Literature in Translation. ALP, CCI, CZ, EI One course. C-L: see Portuguese 360S

390. Special Topics in Latin American and Caribbean Studies. Interdisciplinary study of geographical, historical, economic, governmental, political, and cultural aspects of modern Latin America and the current issues facing the region. Specific topics will vary from year to year. For all undergraduates. Instructor: Staff. One course.

390S. Special Topics in Latin American and Caribbean Culture and Society. This course covers a broad range of cultural topics in Latin American and Caribbean studies from music, art, language, film, journalism, dance, poetry, etc. and explores the ways in which cultural expression reflects and criticizes social, economic and political forces in the region. Different topics will be chosen each term. Staff: Departmental. One course.


490S. Special Topics in Latin American and Caribbean Studies. Interdisciplinary study of geographical, historical, economic, governmental, political, and cultural aspects of modern Latin America and the current issues facing the region. Specific topics will vary from year to year. Instructor: Staff. One course.

498S. Capstone Seminar in Latin American Studies. CCI, SS Required for students seeking the certificate in Latin American Studies. Synthesis, interpretation, and application of knowledge gained in previous courses and experiences abroad (DukeEngage, study abroad, internships, etc.). Explores in greater detail interdisciplinary topics related to Latin American and Caribbean Studies taught by visiting scholars from Latin America with significant emphasis on student mentoring and capstone thesis/project. Open to juniors and seniors only. Instructor: Staff. One course.

590S. Special Topics in Latin American and Caribbean Studies. CCI Interdisciplinary study of geographical, historical, economic, governmental, political, and cultural aspects of modern Latin America and the current issues facing the region. Specific topics will vary from year to year. For juniors, seniors and graduate students. Instructor: Staff. One course.

594S. Cultural (Con)Fusions of Asians and Africans. CCI, CZ, SS One course. C-L: see African and African American Studies 594S; also C-L: Cultural Anthropology 594S, Sociology 594S


690-1. Topics in Latin American Cultural Studies. A problem-oriented course, but also covering theoretical issues, integrating approaches from two or more disciplines. Topics vary from year to year. Instructor: Staff. One course.

690S. Special Topics in Latin American and Caribbean Culture and Society. This course covers, at a graduate level, a broad range of cultural topics in Latin American and Caribbean studies from music, art, language, film, journalism, dance, poetry, politics etc. and explores the ways in which cultural expression reflects and criticizes social, economic and political forces in the region. Different topics will be chosen each term. One course.

LATIN AMERICAN AREA COURSES
African and African American Studies
131. The Third World and the West I
132. The Third World and the West II
209. Afro-Brazilian Culture and History
216. Culture and Politics in the Caribbean
217S. The Atlantic Slave Trade
218. The Caribbean, 1492-1700
219. The Caribbean in the Eighteenth Century
410S. Francophone Literature

**Art History**
433S. 20th Century Latin American Photography

**Arts of the Moving Image**
249S. States of Exile and Accented Cinemas

**Asian & Middle Eastern Studies**
202S. Francophone Literature

**Biology**
280LA. Fundamentals of Tropical Biology
281LA. Research Methods in Tropical Biology
561D. Tropical Ecology

**Canadian Studies**
350S. The U.S. Border and its Borderlands

**Cultural Anthropology**
429. Gender and Sexuality in Latin America

**Environment**
517D. Tropical Ecology

**French**
417S. Francophone Literature

**History**
131. The Third World and the West I
132. The Third World and the West II
315. The Emergence of the Atlantic Basin to 1713
316S. The Atlantic Slave Trade
318. The Caribbean, 1492-1700
319. The Caribbean in the Eighteenth Century
324. Mexico Since Before Cortes
326. Latin America: Colonialism and Its Consequences
327. Afro-Brazilian Culture and History
329. Modern Latin America
387S. Francophone Literature

**International Comparative Studies**
209S. The Atlantic Slave Trade
252S. Research Seminar in Citizenship and Culture
263. The Caribbean in the Eighteenth Century
335. Latin-American Literature in Translation
426. Gender and Sexuality in Latin America
430S. Francophone Literature
459S. 20th Century Latin American Photography

**Latino/a Studies in the Global South**
490S. Special Topics in U.S. Latina/o Literatures and Cultural Studies

**Literature**
314S. States of Exile and Accented Cinemas
370. International Popular Culture
372D. The Idea of Latin America
376. Latin-American Literature in Translation

**Portuguese**
260. Afro-Brazilian Culture and History
332S. Research Seminar in Citizenship and Culture
334S. Introduction to Brazilian Literature

**Public Policy Studies**
216S. The U.S. Border and its Borderlands

**Sociology**
226. The Challenges of Development

**Spanish**
324S. Spanish-American Short Fiction
334. Introduction to Spanish-American Literature
335. Introduction to Spanish-American Literature
561. Latin-American Literature in Translation
A certificate, but not a major, is available in this program.

The undergraduate certificate in Latino/a Studies in the Global South is administered by the Program in Latino/a Studies in the Global South. This interdisciplinary certificate is designed to provide students with comparative, historical, and cultural knowledge of peoples of Latin American descent living in the United States (and moving transnationally); understanding of the concepts of Hispanics/Latino/as, latinidad and hispanidad, and the Global South (and Global North); and insight into the construction and assertion of Latino/a identities, involving convergences and divergences, over space and time. This certificate program allows students to draw on both the strength and scope of Duke’s offerings in Latino/a Studies as well as complementary courses offered at UNC-Chapel Hill, which offers an interdisciplinary minor in Latina/o Studies.

In addition to offering courses and a certificate after completion of the requirements, the Program in Latino/a Studies in the Global South offers a variety of supplemental educational opportunities, including: lectures and events involving prominent scholars, artists, writers, musicians, and performers; financial assistance for student-organized academic discussions; conference awards; advising; and a resource room. Students are invited to use the Latino/a Studies Resource Room (Friedl Building 124) for study sessions and meetings with faculty, students, staff, and community members. Resources available in this room include encyclopedias, texts, novels, scholarly journals, videos, and music. Students may also take advantage of events, lectures, and an annual film festival hosted by the Center for Latin American and Caribbean Studies, which include Latino/a Studies content. Students are encouraged to enroll in Spanish Service Learning courses as well as Duke-approved study away programs (such as Duke in the Andes and Duke in Los Angeles) and to apply to DukeEngage programs that focus on Latino/a populations in the United States and along the border, and/or that take place in various countries within Latin America. For further information, consult the executive director of Latino/a Studies at 122 Friedl, East Campus.

PROGRAM REQUIREMENTS
The course of study for program participants is interdisciplinary, with a minimum total of six courses. Students working toward a certificate in Latino/a Studies in the Global South are encouraged (but not required) to declare it by their fourth semester.

To enroll in the certificate program, students should officially declare their intention to pursue the certificate through Academic Advising (first- and second-year students) or through the Registrar (juniors and seniors) and should also meet in person with the executive director for Latino/a Studies to complete required paperwork and discuss the academic plan.

In meeting the total requirements, a minimum of three departments must be represented, with no more than half (50%) of the courses originating in a single academic unit. Students may count toward this certificate no more than two courses that are being used to fulfill the requirements of any major, minor, or other certificate.

To qualify for the certificate, students will take:
- Latino/a Studies in the Global South 101S. Introduction to Latino/a Studies in the Global South,
preferably in the first or sophomore year.

- one language course: either a) a course in Spanish at the 300-level or above, preferably a Spanish Service Learning course or b) apply to receive credit for a language taken other than Spanish (for example, a less-commonly taught Latin American language such as Quechua). Decisions regarding language credit in circumstance b) will be made on a case-by-case basis, dependent upon applicability of the language to the student’s focus of study and capstone research project.

- three elective courses, two of which must be at or above the 200-level. Of the three elective courses, at least one must be a humanities course, and one a social science course. Qualifying courses may come from the list provided below, or may include other courses not listed (new courses, special topics courses, and independent study), and must have at least 50% of course content on Latino/a Studies and with term papers or other major projects focusing on this field. To determine if specific courses meet requirements for the certificate, students should consult the executive director. Up to two of the elective courses may be taken at UNC-Chapel Hill, in consultation with the executive director. Students are strongly encouraged to take part in study away programs, such as Duke in the Andes and Duke in Los Angeles. Courses taken abroad with Latino/a Studies content that appear on the Duke transcript may count toward the three elective course total. Students may also wish to take advantage of house courses offered on Latino/a Studies topics, although house courses do not satisfy any requirement of the certificate program.

- Latino/a Studies in the Global South 495S. Capstone in Latino/a Studies in the Global South, preferably in the senior year.

**101S. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS** Intro to the interdisciplinary field of Latino/a Studies, and how it reconfigures the study of the United States and the Americas. Considers literature, history, sociology, economics, politics, culture and language in examining terms such as: Latino, latinidad, Global South, transnational, globalization, and multiculturalism. Exploration of alignments and divergences of Latino/a Studies with African and African American Studies, Latin American and Caribbean Studies, and Critical US Studies. Classroom learning will connect with the community outside of Duke. Required intro course for students in the Latino/a Studies in the Global South certificate program. Instructor: Viego. One course. C-L: Literature 143S, Spanish 160S, African and African American Studies 104S

**290. Special Topics in Latino/a Studies in the Global South**

**290S. Special Topics in Latino/a Studies in the Global South.** Topics vary by semester, but always have at least 50% of course content on Latino/as or Latino/a Studies. One course.

**305. Spanish for Heritage Speakers. CCI, CZ, FL, W** One course. C-L: see Spanish 305

**306. Health, Culture, and the Latino Community. CCI, FL** One course. C-L: see Spanish 306

**307S. Issues of Education and Immigration. CCI, FL** One course. C-L: see Spanish 307S; also C-L: Education 307S

**308S. Latino/a Voices in Duke, Durham, and Beyond. CCI, CZ, FL, W** One course. C-L: see Spanish 308S

**412D. Mayas, Aztecs and Incas: The World According to the Indigenous People of Latin America. CZ, EI, R** One course. C-L: see Spanish 412D; also C-L: International Comparative Studies 460D, Cultural Anthropology 367D, History 412D

**412S. Mayas, Aztecs, and Incas: The World According to the Indigenous People of Latin America. CZ, EI, FL, R** One course. C-L: see Spanish 412S; also C-L: Cultural Anthropology 367S, International Comparative Studies 460S

465S. Capstone Seminar: History of the U.S./Mexico Border, 18th to 20th centuries

**490S. Special Topics in U.S. Latina/o Literatures and Cultural Studies. ALP, CCI** One course. C-L: see Spanish 490S-2; also C-L: Latin American Studies
**495S. Latino/as in the Global South Capstone - Global/Local Contexts. CCI, CZ, SS** Required for students seeking the certificate in Latino/a Studies in the Global South. Provides students with the opportunity to synthesize theories and methodologies in Latino/a Studies taken in previous coursework and to critically reflect on content related to the Latino/a world, especially about latinidad in local and global contexts. Utilizes texts of a rigorous and probing nature in relation to individual research projects. Open to juniors and seniors who have previously taken Latino/a Studies in the Global South 101S: Introduction to Latino/a Studies in the Global South. Instructor: Viego. One course.


**ELECTIVES**

**African and African American Studies**
216. Culture and Politics in the Caribbean
246. Comparative Race and Ethnic Studies

**Cultural Anthropology**
236S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change

**Documentary Studies**
332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change

**History**
331S. Exploring Latino Identity in the Twentieth Century

**Sociology**
316. Comparative Race and Ethnic Studies

**Spanish**
303. Introduction to Cultural Studies

**Linguistics (LINGUIST)**

Professor Andrews (Slavic and Eurasian studies), Chair; Associate Professor Andresen (English), Director of Undergraduate Studies; Professors O'Barr (cultural anthropology), Rosenberg (philosophy), Rubin (psychology), and Thomas (romance studies); Associate Professors Day (psychology), Mazuka (psychology), and Rasmussen (German); Assistant Professor Baran; Associate Professor of the Practice Walther (German); Assistant Professor of the Practice Fellin; Adjunct Assistant Professor Keul (German). Affiliated faculty: Professors Brandon (philosophy), Cooke (Asian and Middle Eastern Studies), Garci-Gómez (romance studies), and Rubin (psychology); Associate Professor Güzeldere (philosophy); Assistant Professor Sterrett (philosophy); Professor of the Practice Tufts (romance studies); Associate Professor of the Practice Kim (Asian and Middle Eastern Studies); Assistant Professor of the Practice Paredes (romance studies)

A major or a minor is available in this program.

From the earliest philosophers to modern neuroscientists, researchers from a wide range of disciplines have explored a diverse range of issues concerning the human capacity for language and the diversity of the world's languages. Linguists work at the intersection of these issues and define linguistics as the science of language and languages. During the last 150 years, linguists have developed a variety of theoretical paradigms to describe and explain language history, dialect variation, cross-cultural similarities and differences, the neurological processing and production of language, and the evolutionary emergence of language.

The linguistics major at Duke is unusual in its range of theoretical approaches coupled to the study of languages of the world. The required courses for the major stress empirical methods and the global data base; the theory courses expose the student to the perspectives offered by historical and comparative linguistics, structural linguistics, generative linguistics, sociolinguistics, semiotics, discourse analysis, philosophy, cognitive linguistics and psycholinguistics. The major maintains the traditional and mainstream body of linguistic inquiry and, at the same time, encourages exploration of the most recent developments in language study that issue from cultural and literary theory and the biological sciences.
114FS. The Power of Poetry. ALP, CZ Takes different approaches to thinking through the relationship of poetry to power and the place and function of poetic language in contrast to other language forms. Specific units: 1) poetry's roots in what we think of as prayers, spells, and curses and the roots of theatre and epic narrative in rituals associated with these forms—focus primarily on early Vedic poetry and the work of Laurie Patton and Theodore Proferes on its public dimensions, 2) comparative/historical study 3) an exploration of "lyric" as a form of play, and 4) consideration of arguments for the value and function of poetry in contemporary culture. Open only to students in the FOCUS Program. Instructor: Need. One course.

124FS. Remembering Differently. CCI, CZ, SS The social construction of memory as seen in the different ways "memory" has functioned in human language, culture and thought, including medical practices, time, group identity, religion, law and ethics, performance, media new and old, and cultural mythologies. Includes readings from the Sophists, Plato, Augustine, Matteo Ricci, Bergson, Proust, Freud, and non-Western sources like the Buddha and Bilhana. Instructor: Liu. One course.

170. Advertising and Society: Global Perspective. CCI, SS One course. C-L: see Cultural Anthropology 170; also C-L: Sociology 160, Visual and Media Studies 170, Canadian Studies, Policy Journalism and Media Studies, Women's Studies

170D. Advertising and Society: Global Perspective. CCI, SS One course. C-L: see Cultural Anthropology 170D; also C-L: Sociology 160D, Visual and Media Studies 170D

190A. Duke-Administered Study Abroad: Special Topics in Linguistics. CCI The study of linguistics and languages on Duke-approved programs at foreign institutions of higher learning. Topics differ by section. Instructor: Staff. One course.

195FS. Focus Program Seminar on Linguistics. SS One course. C-L: see English 195FS

201. Introduction to Linguistics. CCI, SS Introduction to the scientific study of linguistics and languages. Topics include the origin and nature of language, methods of historical and comparative linguistics, theories and schools of linguistics, empirical and descriptive approaches to the study of language, including phonology, morphology, semantics, and syntax. Instructor: Butters or Tetel. One course. C-L: International Comparative Studies

202. Languages of the World. CCI, SS The major languages of the world viewed in the context of the communicative and significate functions of language as parameters that shape and define society. The role of language in defining and structuring culturally-based relationships from a semiotic point of view. The structure, writing systems, phonology, morphology, and lexicon of languages from the following groups: Indo-European, Semitic, Turkic, Finno-Ugric, Caucasian, Afroasiatic, Sino-Tibetan, Niger-Kordofanian, Dravidian, and Native American languages. Instructor: Andrews or Tetel. One course. C-L: Cultural Anthropology 202, Russian 362, International Comparative Studies 210

203S. Introduction to Theoretical Linguistics. R, SS One course. C-L: see English 203S

204. English Historical Linguistics. SS One course. C-L: see English 204

205. The Law and Language. CCI, CZ, EI, SS Intersections of language and law and legal institutions examined from a comparative approach, i.e., official state language and national identity; freedom of speech and its limitations; language as property. One course. C-L: Cultural Anthropology 205

205FS. Language and the Law. CZ, EI, SS One course. C-L: see Slavic and Eurasian Studies 205FS

206. Variety in Language: English in the United States. CCI, SS One course. C-L: see English 206

207. Psychology of Language (C). R, SS One course. C-L: see Psychology 256

208. Philosophy of Mind. CZ, R One course. C-L: see Philosophy 212; also C-L: Visual and Media Studies 302, Information Science and Information Studies

209. Philosophy of Language. CZ One course. C-L: see Philosophy 209

210FS. The Mind and Language. SS One course. C-L: see English 209FS

210S. The Mind and Language. SS One course. C-L: see English 209S

402 Courses and Academic Programs
211FS. The Neuroscience of Reading & Language Comprehension. NS, R
Examination of complex cognitive functions involved in effective language comprehension that involve multiple layers of analysis (e.g., sounds, words, syntax, discourse), and require extensive computational resources and processes afforded by the brain. Focus on neural infrastructure that enables language comprehension. Consideration of clinical disorders that result in language impairment such as semantic dementia and aphasia, and modern research technologies such as fMRI, EEG, and transcranial magnetic stimulation that can be used to study neurotypical individuals. Includes methodological details of each technique, and research findings from primary source documents. Instructor: Diaz. One course. C-L: Neuroscience 111FS

212FS. Law, Ethics & Responsibility. EI, SS, STS
Examines the intersection of law and neuroscience, including the use of neuroimaging to determine if a witness is telling the truth; the implications of neuroscience for determining the mental competency of defendants, the insanity defense, the imposition of punishment on defendants. Considers the extent to which recent advances in brain science cause us to reevaluate fundamental legal concepts of "intent," "insanity," and responsibility; the ways in which neuroscience may be applied to these and related issues; and the inherent limitations and incongruities of applying brain science to legal questions. Instructor: Newcity. One course. C-L: Public Policy Studies 250FS

213FS. The Politics of Language. SS
One course. C-L: see Slavic and Eurasian Studies 215FS; also C-L: Political Science 185FS

216FS. Neuroscience and Human Language. NS, SS
Same as Linguist 216S; open only to students in the Focus Program. Prerequisite: Advanced placement credit in Biology. Instructor: Andrews. One course. C-L: Russian 216FS, Neuroscience 116FS

216S. Neuroscience and Human Language. NS, SS
The relationship of brain and language explored through a variety of methodologies and approaches, including first and second language acquisition across cultures, multilingualism, language disorders, and imaging studies of language acquisition, maintenance and loss. Special attention to Russian contributions to cognitive neuroscience and linguistic theory. Prerequisite: Advanced Placement credit in biology. One course. C-L: Russian 216S, Neuroscience 116S

250. Symbolic Logic. CZ
One course. C-L: see Philosophy 250; also C-L: Information Science and Information Studies

302S. French Phonetics. FL
One course. C-L: see French 329S

303. Fundamentals of Spanish Linguistics. FL, SS
One course. C-L: see Spanish 304

304. French Composition and Translation. CCI, FL
One course. C-L: see French 304

305S. Italian Sociolinguistics. CCI, CZ, FL, SS
One course. C-L: see Italian 303S

306S. Korean Sociolinguistics. CCI, CZ, SS
One course. C-L: see Asian & Middle Eastern Studies 378S

308S. Bilingualism. CCI, SS
One course. C-L: see Asian & Middle Eastern Studies 308S

336S. Issues in Language Development (C, D). CCI, SS, W
One course. C-L: see Psychology 336S; also C-L: Children in Contemporary Society

351S. Cognitive Psychology of Oral Traditions (C). CCI, SS
One course. C-L: see Psychology 351S

361. Language Technologies and Culture Acquisition. R, SS, STS
One course. C-L: see Russian 361; also C-L: Information Science and Information Studies

364. Gender and Language. CCI, R, SS
One course. C-L: see Russian 364; also C-L: Cultural Anthropology 232, International Comparative Studies 207, Women's Studies 232

390A. Duke-Administered Study Abroad: Advanced Special Topics in Linguistics. CCI
Advanced study of linguistics and languages on Duke-Approved programs at foreign institutions of higher learning. Topics differ by section. Instructor: Staff. One course.

390S-01. Topics in Spanish Linguistics. CCI, FL
One course. C-L: see Spanish 390S-5
396S. Language in Immigrant America. ALP, CCI, R One course. C-L: see English 396S; also C-L: Cultural Anthropology 397S, Slavic and Eurasian Studies 396S

410S. Linguistics and Law. SS Topics include surreptitious recordings as criminal evidence; pornography, slander, defamation, and libel; interpretation of laws and contracts; copyright, patents, and trademarks; jury instructions; jury selection; courtroom language as a unique register; the language of judges' decisions; interrogations and confessions; official bilingualism; product warnings; clarity of instructions leading to potential liability issues. Instructor: Newcity. One course.


451. Language and Society. CCI, SS One course. C-L: see English 395; also C-L: Slavic and Eurasian Studies 385, Cultural Anthropology 212

469SA. Language, Technology and Social Change in India. CCI, SS, STS This course takes an expansive view of exploring how technological innovations, including information technologies, broadcast media, and biotechnologies in India, impact cultural practices, ethical norms, language and social structures, especially gender, class and caste. The role of language policy in education, rural and urban geography, and resource utilization are each considered in the context of understanding technology-driven social change in diverse global contexts. Offered as part of the Duke INtense Global Program in Hyderabad, India. Instructor: B. Prasad & L. Prasad. One course.

471S. Language and Politics: Eurasian Perspectives. CCI, SS Will examine the interfaces between language, migration, and socio-political structures in the newly independent nations of Eurasia. While these interfaces have long historical antecedents in nation-state formations, their manifestations in the post-national, post-communist era are novel and complex. Understanding these new dynamics requires viewing language from a political-sociological perspective that takes into account the interplays between the local, the national and the global. Instructor: Price. One course. C-L: Slavic and Eurasian Studies 484S, Sociology 471S, Public Policy Studies 208S

472S. Cold War Texts: Politics, Propaganda and Pop Culture. ALP, CCI, EI, SS This course examines the subtle (and not-so-subtle) ways in which Soviet Russia and Eurasia were strategically constructed and represented during the Cold War. Students will learn to critically analyse the meanings and ethical implications of a variety of texts--including political speeches, propaganda films, policy documents, and selections from popular film and literature--and locate them in the historical, social and political contexts of their production. Students will engage with theories and methods from a range of disciplines including critical discourse analysis, sociolinguistics and political sociology. Instructor: Price. One course. C-L: Slavic and Eurasian Studies 434S, Sociology 472S, Public Policy Studies 213S

473S. Neuroscience and Multilingualism. NS, R, STS In-depth analysis of PET, fMRI, MEG, EEG/ERP studies of multilingualism and their implications for linguistic theory. A close examination of the neuroanatomical and neurophysiological aspects of imaging studies and the importance of neurofunctional explanations play a central role in building new theoretical paradigms of acquisition, maintenance and loss of languages. Instructor: Andrews. One course. C-L: Russian 439S

493. Research Independent Study. R Individual research and reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

501. Cognitive and Neurolinguistics. NS, R, SS The interrelationship between language and brain as described and analyzed in cognitive and neurolinguistics. Topics include localization theories, hemispheric dominance in language, language disorders, invasive and noninvasive scanning and imaging technologies (including ERP, EEG, fMRI, MEG), encoding and decoding of language at the phonological, morphological, syntactic, and semantic levels. Readings include scholarship from theoretical and cognitive linguistics, neurolinguistics, neurobiology, neuropsychiatry, and neuropsychology. Major research project required in form of research paper, laboratory or imagining experiment, or IRB document. Instructor: Andrews. One course. C-L: Russian 510, Neuroscience 501S

502S. Language, Brain, and Human Behavior. R, SS, STS Explores the intersection of cognition and language by looking at a variety of theories of language, including: traditional models that vary according to how much the capacity for language is attributed to "the genes" or to "the environment" and newer models that question and redescribe traditional definitions of terms such as "nature," "nurture," genetic code," and "language." How traditional and new models of language interpret the capacity for language in its relationship to the neurosciences, the cognitive sciences, and the social sciences. Instructor: Tetel. One course. C-L: Psychology 670S

503S. Language Evolution and Acquisition. R, SS Both the phylogeny and ontogeny of language, i.e., both the wide and growing variety of scripts for the evolution of language in the human species and the various approaches to the emergence of language in the individual. The emergence of language in the individual and the particular language(s) the individual is exposed to, making linguistic relativity an important topic. Instructor: Tetel. One course. C-L: English 503S

506. Semiotics and Linguistics. ALP, CCI, R, SS One course. C-L: see Russian 506

510. Brain and Language. NS Focus on cognitive processes and brain mechanisms involved in language comprehension and production. Psycholinguistic models and how these models may be implemented in the brain. Instructor: Andrews. One course. C-L: Psychology 575, Neuroscience 510

512. Structure of French. FL One course. C-L: see French 512

512S. Topics in Spanish Linguistics. FL, R, SS One course. C-L: see Spanish 512S

528S. Recent and Contemporary Philosophy. CZ One course. C-L: see Philosophy 628S

560. History of the German Language. One course. C-L: see German 560; also C-L: Medieval and Renaissance Studies 607

561S. Second Language Acquisition and Applied Linguistics. SS One course. C-L: see German 561S

564. Russian and Slavic Linguistics. SS One course. C-L: see Slavic and Eurasian Studies 564

590. Special Topics. CCI, R, SS Study of theoretical and applied linguistics. Contrast and comparison of both theoretical approaches and language groups is required. Topics to be announced. Instructor: Staff. One course.

590S. Special Topics in Linguistics. CCI, R, SS Same as Linguistics 590 except instruction is provided in a seminar format. Instructor: Staff. One course.

THE MAJOR

The major is composed of ten courses, eight of which must be at the 200 level or above. The courses combine empirical methods with theory. They are devised to provide depth and breadth in linguistic theory, the different schools of linguistics, the history and development of linguistic thought, and the interdisciplinary aspects of linguistics in the context of languages and cultures. Majors must take Linguistics 101 and 102, which define the fundamental questions of linguistic theory in the context of the world's languages; and in the junior or senior year the capstone course Linguistics 215S, which adds cohesion to the major. For depth, the student is required to take three courses from the list of theory courses, which provide the necessary theoretical and empirical constructs for the study of linguistics. In addition, two courses are required in one
of the concentrations in a specific area of linguistics. All majors are required to take at least two foreign language courses at or above the 100-level. Students may petition to add courses to the list of courses that count toward the Theory and Disciplinary areas below (II and III).

MAJOR REQUIREMENTS

I. Introductory Linguistics Courses (2):
   201. Introduction to Linguistics
   202. Languages of the World

II. Theory: Three (3) courses in the study of theoretical linguistics. Courses to be chosen from the following list:

REGULARLY SCHEDULED LINGUISTICS COURSES:

   250. Symbolic Logic
   203S. Introduction to Theoretical Linguistics
   209. Philosophy of Language
   207. Psychology of Language (cross-listed)
   204. English Historical Linguistics
   308SS. Bilingualism
   216S. Neuroscience and Human Language
   364. Gender and Language
   206. Variety in Language
   493. Research Independent Study
   494. Research Independent Study
   501. Cognitive and Neurolinguistics
   502S. Language, Brain, and Human Behavior
   506. Semiotics and Linguistics
   410S. Linguistics and Law
   561S. Second Language Theory and Practice
   510. Brain and Language

SPECIAL TOPICS COURSES, OFFERED PERIODICALLY:

English
   490-1. Current Topics in Linguistics

Linguistics
   590. Special Topics
   590S. Special Topics Seminar

III. Disciplinary Areas. Two (2) courses in one of the areas listed below. No course taken for credit as theory may be counted to fulfill the disciplinary concentration requirement. Qualifying courses are listed above under the heading "Linguistics Program Courses." Disciplines include:

   Asian and Middle Eastern Studies
   Cultural Anthropology
   English
   German
   Philosophy
   Psychology
   Romance Studies
   Slavic and Eurasian Studies
   Spanish

IV. Junior/Senior Seminar in Linguistics. (Linguistics 215S). The capstone course for the major, usually taken in the junior or senior year.

V. Language Requirement. Two (2) semester courses in a single language other than English at or above the 100 level, excluding languages in which the student possesses native proficiency in speech and writing. Students with advanced placement credits or other evidence of foreign language proficiency are not exempted from this requirement. Advisor's approval is required in order to determine the language chosen for the major. The specific language courses are too numerous to list here. Advisors should also be consulted for specific approval of the language choice if it does not conform to the list below or in the case of a tri-lingual student: Arabic, Chinese, French, German, Greek, Hebrew, Hindi, Italian, Japanese, Korean, Latin, Polish, Portuguese,
Departmental Graduation with Distinction

The Linguistics Program offers work leading to Graduation with Distinction. See the program chair.

Procedure for Selection of Students. An overall GPA of 3.3 and GPA of 3.5 in the major are required. The process for admission to the Graduation with Distinction program is initiated by the submission of a research proposal to a faculty advisor by the end of the second semester of the junior year.

Expected Product. The central requirement is an honors thesis prepared by the student under faculty supervision. The thesis generally consists of three to five chapters with an extensive bibliography.


Levels of Distinction. The honors thesis committee will decide to grant distinction and at what level (Distinction, High Distinction, Highest Distinction) based on the quality of the completed work.

Special Courses Required. The program consists of two courses. 1) Linguistics 493, Research Independent Study, taken in the fall semester of the senior year, is devoted to development of the honors thesis and includes close supervision of the writing stage of the project by a faculty member selected by the student. (This study can also be listed as a special topics course, Linguistics 590S, if it is titled "Honors Thesis.") 2) The second course is Linguistics 450S, Senior Seminar in Linguistics, which is the capstone course specifically designed for doing comparative research.

THE MINOR

Requirements: Five courses, in linguistics, three of which must be at the 200 level or above. Usually, two of these courses are Linguistics 201 and Linguistics 202.

Literature Program in Global Cultural Studies (LIT)

Professor Hardt, Chair; Professor Hansen, Director of Undergraduate Studies; Professors Aravamudan, Chow, Dainotto, Donahue, Hansen, Hardt, Hayles, Jameson, R. Khanna, Lenoir, Lentricchia, Mignolo, Moi, Mudimbe, Surin, and Wiegman; Associate Professors Lubiano, Mottahedeh, Viego, and Willis; Assistant Professor Hadjioannou; Research Professors Dorfman and Garreta; Visiting Professor Harootunian

A major or a minor is available in this program. Both major and minor include a required course, a set of core Literature courses and some electives. The general rule for identifying core Literature courses is that they are numbered from 50-99, 150-199, 300 to 399, 450-499, and 600-699. In addition a few courses not in this range are core courses; these courses can be identified by the name of the professor: the rule here is that any course taught by any above listed Literature faculty member regardless of its number is a core Literature course.

80S. Special Topics: Introduction to Literature. ALP Introduction to the study of literature and other forms of cultural expression, such as film. Different introductory approaches will be used in each section (for example, a systematic account of literary genres, a historical survey of ideas and forms of fiction, concepts of authorship and subjectivity, or of literary meaning and interpretation). More than one national literature or culture represented. May be taken twice for credit. Instructor: Staff. One course.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

101S. Gateway to Global Cultural Studies. ALP Gateway course for the Literature Major in Global Cultural Studies. Examines how the work of the humanities provides conceptual and analytic skills for processing the complex textual, cultural, scientific, mediatic, and ethical information in circulation in the contemporary world. One course.

110. History and Concepts of Cinema. ALP One course. C-L: see Arts of the Moving Image 201; also C-L: Theater Studies 278, English 181, Visual and Media Studies 289, Documentary Studies 264, Policy Journalism and Media Studies
111. Introduction to the Arts of the Moving Image. ALP One course. C-L: see Arts of the Moving Image 101; also C-L: Visual and Media Studies 102, Visual Arts 102, Information Science and Information Studies 111

143S. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 101S; also C-L: Spanish 160S, African and African American Studies 104S

149. Introduction to Asian and African Literature. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 105; also C-L: International Comparative Studies

150. Introduction to Cultural Studies. ALP Basic theoretical approaches to high and low culture—Bourdieu and Adorno, the Frankfurt School and the Birmingham Center for Contemporary Cultural Studies; Third World and feminist approaches; the avant-garde and subcultural resistance. Analysis of sport and leisure, film and photography, law and the arts, popular and classical music, painting and advertising imagery. Instructor: Staff. One course. C-L: English 180, Visual and Media Studies 180, Arts of the Moving Image, Marxism and Society

151. Studies in Interpretation. ALP Examples from short fiction and poetry will provide a basis for the development of close reading skills as a basis for literary interpretation. Instructor: staff. One course.

190FS. Special Topics in the Focus Program. ALP Topics vary. Open only to students in the Focus Program. Instructor: Staff. One course.

190S. Special Topics: Introduction to Interpretation and Writing. ALP This course introduces students to the basic skills of interpretation of texts and critical writing and argumentation. May be taken twice. Instructor: Staff. One course.

210. Colonial Cinema and Post-Colonial Reflections. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 301; also C-L: International Comparative Studies 301, Arts of the Moving Image 259

211. Indian Cinema. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 251; also C-L: Arts of the Moving Image 253, Visual and Media Studies 231

212. World of Korean Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 471; also C-L: Arts of the Moving Image 255, Visual and Media Studies 234


214. Modern Chinese Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 431; also C-L: Arts of the Moving Image 250, Visual and Media Studies 235

215. Italian Cinema. ALP, CCI One course. C-L: see Italian 380; also C-L: Arts of the Moving Image 254, Visual and Media Studies 308, Theater Studies 276

216S. Trauma and Nostalgia: East European Film in the 21st Century. ALP, CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 288S; also C-L: Arts of the Moving Image 268S

217. Contemporary Israeli Cinema. ALP, CCI, EI One course. C-L: see Asian & Middle Eastern Studies 241; also C-L: Arts of the Moving Image 257, Jewish Studies 241, Women's Studies 214, Islamic Studies

218. Existentialist Cinema. ALP, CCI, CZ, EI, STS One course. C-L: see German 386; also C-L: Theater Studies 372, Visual and Media Studies 283, Arts of the Moving Image 267, Arts of the Moving Image

219. Women in Film. ALP, CCI One course. C-L: Arts of the Moving Image 216, Women's Studies 227, Study of Sexualities 225

220. Film Genres. ALP One course. C-L: see Arts of the Moving Image 210; also C-L: Visual and Media Studies 267

221. American Film Comedy. ALP One course. C-L: see Arts of the Moving Image 211; also C-L: English 382, Visual and Media Studies 268
222. Global Performance Art: History/Theory from 1950's to Present. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 344; also C-L: Information Science and Information Studies 275, Theater Studies 235, Women's Studies 276

224S. Digital Storytelling. ALP, STS, W One course. C-L: see Information Science and Information Studies 351S; also C-L: Visual and Media Studies 357S


235S. Anthropology of Space. CCI, SS One course. C-L: see Cultural Anthropology 426S; also C-L: Women's Studies 280S, Islamic Studies

239S. Korean Literature in Translation: Local and Global Connections. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 272S; also C-L: International Comparative Studies 272S

240. The Devil's Pact: Faust and the Faust Tradition. ALP, CCI, EI One course. C-L: see German 370; also C-L: Medieval and Renaissance Studies 345

242. The Existentialist Imagination. ALP, CZ, EI One course. C-L: see German 385; also C-L: Philosophy 283

242D. The Existentialist Imagination. ALP, CZ, EI One course. C-L: see German 385D; also C-L: Philosophy 283D

243. Secularization and Modernity: Cross-Disciplinary Readings 1750-1914. ALP, CCI, CZ, EI, R One course. C-L: see English 285; also C-L: Sociology 348, Political Science 374, German 376, Romance Studies 360

244S. Poetry, Desire & Religion. ALP, CCI, CZ, W One course. C-L: see Religion 275S

245. Dante's Divine Comedy: Hell, Purgatory and Paradise. ALP, CCI, CZ, EI One course. C-L: see Italian 481; also C-L: Medieval and Renaissance Studies 450, Religion 262, History 253

246D. Flaubert's Brain: Neurohumanities. ALP, CCI One course. C-L: see French 481D; also C-L: Neuroscience 241D

247. Classics of Western Civilization: The German Tradition, 1750-1930. ALP, CCI, CZ One course. C-L: see German 375; also C-L: History 268, Political Science 375

248S. Chinese Literature and Culture in Translation. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 232S

250. Korean Literature in Translation. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 272

252. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms to Disney. ALP, CCI, CZ One course. C-L: see German 262

260S. Freud and Sexuality. CCI, R, SS One course. C-L: see Women's Studies 372S; also C-L: Literature 310S, Psychology 322S

261S. Freud and Feminism: The Unconscious. CCI, R, SS One course. C-L: see Women's Studies 373S

272S. Spanish Avant-Gardes/Kino-Texts. ALP, CCI, EI, FL One course. C-L: see Spanish 437S

273. Europe in Theory. ALP, CCI, CZ, R One course. C-L: see Italian 201

280. Marx, Nietzsche, Freud. CCI, CZ, SS One course. C-L: see German 380; also C-L: Philosophy 286, Political Science 378, Marxism and Society

280D. Marx, Nietzsche, Freud. CCI, CZ, EI, SS One course. C-L: see German 380D; also C-L: Philosophy 286D, Political Science 378D

290. **Special Topics in International Literature and Culture. ALP, CCI** Topics in international culture, examined through literary texts, film, and other media. Organized according to trends, topics, and genres. Instructor: Staff. One course.

290S-1. **Special Topics in International Literature and Culture. ALP, CCI** Seminar version of Literature 290. One course.

290-2. **Special Topics in National Cinema.** Understanding nationhood through film culture. Industrial base, reception history, and critical context for development of national cinemas. Exemplary films from a range of periods. Instructor: Staff. One course.


290A. **Duke-Administered Study Abroad: Special Topics in Literature. ALP** Topics differ by section. Instructor: Staff. One course.


296S. **Borderland and Battleground: A journey Through Twentieth-Century Eastern Europe. ALP, CCI, CZ** One course. C-L: see Slavic and Eurasian Studies 286S

301S. **Theory Today: Introduction to the Study of Literature. ALP** Introduction to major areas of research in Literature with focus on specific theoretical issues of contemporary concern in various subfields of literary study. Led by a primary Literature faculty member, and featuring lectures by seven Literature faculty on their areas of expertise, including film; media; science and technology; cultural studies; literary studies and aesthetics; feminism and gender studies; marxism and transcultural studies; philosophy and theory. Required for all Literature majors and minors; to be taken as early as possible in major/minor sequence. Instructor: Staff. One course.

310S. **Freud and Sexuality. CCI, R, SS** One course. C-L: see Women's Studies 372S; also C-L: Literature 260S, Psychology 322S

312. **Gender and Sexuality in Japanese Anime Culture. ALP, CCI** Topics may vary. One course. C-L: Visual and Media Studies 290-1

313. **Movies of the World/The World of Movies. ALP, CCI, STS** History and theory of film and video technology across nations; postcolonial patterns and their electronic and mechanical transmission; economics of distribution, reception, exhibition, and their relation to aesthetics. The first world defined against the second and third by means of cultural product. Instructor: Mottahedeh. One course. C-L: German 363, Russian 384, Arts of the Moving Image 248, Islamic Studies


315S. **Sexualities in Film and Video. ALP** The variety of ways sexualities are represented in current mainstream and avant-garde film and video art. Topics include voyeuristic, narcissistic, and other perverse pleasures; modes of representing bodies, genders, and desires (especially gay and lesbian ones) in relation to national and subcultural identities. Readings in film theory and the history and theory of film technology, as well as related literary and critical texts. Instructor: Clum or Metzger. One course. C-L: Arts of the Moving Image 220S, Visual and Media Studies 295S, Study of Sexualities

317. **Media Theory. STS** Introduction to the material and technical infrastructure that informs and constrains the production and dissemination of knowledge. Exploration of cultural impact of technical media from writing to the internet. Combines historical and theoretical discussion with hands-on experimentation with various media, including the codex book, phonography and sound registration technology, photography, cinematography, video, virtual reality, digital computation, and the internet. Instructor: Hansen. One course. C-L: Arts of the Moving Image 204S, Information Science and Information Studies 214S, Visual and Media Studies 328S


330S. **Social Facts and Narrative Representations. ALP** Story telling as it establishes, relies on, and transforms socially recognized categories—gender, class, race, sexual orientation, and region. Narrative theory; examples from written fiction, film, and television. Instructor: Lubiano. One course. C-L: African and African American Studies 324S

335S. **Political Economies of the Global Image. ALP, CCI, SS, STS** In the contemporary world we are inundated with images and with announcements of the global, yet what is a global image? What makes images global, and how might a set of global events become images? How do global images create their audiences with implicit identity markers such as race, class, and sexual preference, or the absence of them? In this course, we will study a variety of image-texts drawn from art, photography, film, advertising, science, and digital media in order to understand the cultural processes by which images communicate, give pleasure, cause anxiety, provoke controversy, and/or attain global status. Instructor: Chow. One course. C-L: Arts of the Moving Image 247S, Women's Studies 249S, Cultural Anthropology 217S, Visual and Media Studies 248S

341. **Science Fiction. ALP, EI, STS** Exploration in science fiction of transhumanism, called by Francis Fukuyama "the world's most dangerous idea." Critical inquiry into the transhumanist imperative that Homo sapiens can and should evolve further through advanced technology, including the claim that death is not inevitable. Texts include Greg Bear, Blood Music; Philip K. Dick, Do Androids Dream of Electric Sheep and film adaptation of Blade Runner; Shirow Masamune, Ghost in the Shell, graphic novel and film; Vernon Vinge, Rainbows End; Stanislaw Lem's The Cyberiad; Bruce Sterling, Holy Fire; Octavia Butler, Dawn; Greg Egan, Permutation City; Orson Scott Card, Ender’s Game; and selected short stories. Instructor: Hayles. One course.

341D. **Science Fiction. ALP, EI, STS** Exploration in science fiction of transhumanism, called by Francis Fukuyama "the world’s most dangerous idea." Critical inquiry into the transhumanist imperative that Homo sapiens can and should evolve further through advanced technology, including the claim that death is not inevitable. Texts include Greg Bear, Blood Music; Philip K. Dick, Do Androids Dream of Electric Sheep and film adaptation Blade Runner; Shirow Masamune Ghost in the Shell, graphic novel and film; Vernon Vinge Rainbows End; Stanislaw Lem's The Cyberiad; Bruce Sterling, Holy Fire; Octavia Butler Dawn; Greg Egan, Permutation City; Orson Scott Card, Ender's Game; and selected short stories. Discussion version of Lit 341. Instructor: Hayles. One course.
343. Special Topics in North American Literature and Culture. ALP, CCI Topics in North American (United States, Canada, Mexico) culture, examined through literary texts, film, and other media. Organized according to trends, topics, and genres. One course.

343S. Special Topics in North American Literature and Culture. ALP, CCI Seminar version of Literature 343. Instructor: Staff. One course.

344. Poetics of Murder. ALP, CCI One course. C-L: see German 288

345S. Popular Fictions. ALP Three popular genres, science fiction/fantasy, the western, and detective fiction, and how they reflect aspirations and cultural anxieties about matters such as gender. Open to juniors and seniors only. Instructor: Willis. One course. C-L: English 375S, Women's Studies 252S

346S. Utopian Writing. ALP, CCI The various historical and theoretical expressions of Utopia will be examined across a range of texts drawn from art, architecture, film, and literature. Ethical issues and problems attached to traditional utopias will be considered against the radical politics of utopia as negation or transformation of existing society. Instructor: Staff. One course.

347D. Types of Recent Fiction. ALP Includes types such as faux memoir, dystopian novel, satire, realism in its high, middle, and low mimetic modes, the international political novel, faux essay, and experimental fictions for which literary criticism has yet to invent an adequately descriptive terminology. Focus on the works of George Orwell, Norman Mailer, Graham Greene, Raymond Carver, John Cheever, Thomas Bernhard, Saul Bellow, John Barth, and Donald Barthelme, with emphasis on ways in which a writer's artistic power recreates and reveals freshly subjects taken for granted. The novel as a special and disturbing way of knowing. Instructor: Lentricchia. One course. C-L: English 376


351. Contemporary Novel. ALP, W One course. C-L: see English 377

360. Women Writers. ALP Issues of gender and representation in works by women from the Middle Ages to the modern period. Concentration on specific periods, areas, or themes. Relationship of women's literature to the other arts, political practices, and social developments. Instructor: Staff. One course. C-L: Women's Studies

367A. Jewish Berlin. ALP, CCI, CZ, EI One course. C-L: see German 367A; also C-L: Jewish Studies 367A, International Comparative Studies

368. German Jewish Culture from the Enlightenment to the Present. ALP, CCI, CZ One course. C-L: see German 368; also C-L: Jewish Studies 368

369. Germany Confronts Nazism and the Holocaust. ALP, CCI, CZ, EI One course. C-L: see German 387; also C-L: Jewish Studies 369


371. Problems in Global Culture. ALP, CCI, EI The study of cultural production from across the world, with a special emphasis on mass media, fiction, and literature. Particular attention to the tension between ethics and aesthetics in a number of texts, comparing mass media products from the developed Western world with
novels, poems and films from misdeveloped countries. A basically comparatist, multigenre approach. One course. C-L: Arts of the Moving Image

371S. Problems in Global Culture. ALP, CCI, EI Seminar version of Literature 371. Instructor: Staff. One course. C-L: Arts of the Moving Image

372D. The Idea of Latin America. CCI, CZ One course. C-L: see Spanish 363D; also C-L: Latin American Studies

375D. Latin American Literature in Translation. ALP, CCI Foundational and recent texts, crucial themes, obsessions, genres and stylistic strategies of Latin American culture. Readings include canonical authors such as Sarmiento, Garcia Marquez, Lispector, Cortazar; recent writers who address contemporary issues. Ethical and political dilemmas will be constantly examined. Instructor: Dorfman. One course. C-L: International Comparative Studies 339D, Spanish 361D

376. Latin-American Literature in Translation. ALP, CCI One course. C-L: see Spanish 361; also C-L: International Comparative Studies 335, Latin American Studies

380. Marxism and Society. CZ, EI, SS Introduction to Marx's core concepts, such as alienation, commodity, and revolution. Includes examination of Marx's own major historical & political analyses, his economic texts, and his philosophical writings. Students also gain familiarity with the role of Marxist thought in different fields and disciplines, including feminist theory, anthropology, history, political science, and literary studies. Instructor: Hardt. One course. C-L: Cultural Anthropology 203, Education 239, Sociology 339, International Comparative Studies, Marxism and Society

390. Special Topics in Literature. ALP Topics vary by semester. Instructor: Staff. One course.

390S-1. Special Topics in Literary Genres. ALP Studies in one or more literary genres or subgenres, such as the novel, drama, poetry, or the documentary novel, epic poetry, love lyrics, modernist drama, and so on. Focus on questions of genre and form, but other themes discussed may vary widely. Instructor: Staff. One course.

390S-2. Special Topics in Literary Movements. ALP Historical, theoretical, and/or formal approaches to literary movements in different periods and cultures. Instructor: Staff. One course.

390S-3. Special Topics in Individual Authors. ALP Seminar version of Literature 154. Biographic, historical, and/or stylistic approaches to one or two individual authors, as well as critical debates concerning their work. Instructor: Staff. One course.

390S-4. Special Topics in Film. ALP Close study of a major genre, period, or director. Instructor: Staff. One course. C-L: Arts of the Moving Image

390S-5. Selected Topics in Feminist Studies. Topics vary each semester. Instructor: Staff. One course.


390S-6. Special Topics in Gender and Sexuality. ALP Different literary and/or theoretical approaches to questions of sex, gender, and sexuality. Instructor: Staff. One course. C-L: Women's Studies


390S-7. Special Topics in the Study of Literature in Relation to Other Disciplines. ALP A comparative approach to the study of literature that draws on the methods and materials of other disciplines, such as sociology, history, anthropology, or philosophy. Focus on the methods of interdisciplinary study. Contents vary with instructors. Instructor: Staff. One course.

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390S-8. Special Topics in Culture and the Arts. ALP Literature in relation to the plastic and visual arts, architecture, and photography. Topics will vary according to the instructor, for example: modernism and postmodernism, the avant-garde, identity, and nationalism in the art of a given period. Instructor: Staff. One course.


390-10. Special Topics in Literature and National Cultures, Ethnicity, Race. ALP, CCI Literature as a part of specific national cultures; questions such as: How does literature articulate conceptions of nationality, ethnicity, and race? Does literature have a color? What is the relationship between national languages, dialects, and ethnic languages? What role does literature as an institution play in the constructions of nationhood? Instructor: Staff. One course. C-L: International Comparative Studies, Marxism and Society

390S-10. Special Topics in Literature and National Cultures, Ethnicity, Race. ALP, CCI Seminar Version of Literature 390-10. Instructor: Staff. One course. C-L: International Comparative Studies, Marxism and Society

390-11. Special Topics in Third World or Postcolonial Literature and Cultures. Colonial and postcolonial literatures of India, New Zealand and Australia, Canada, Francophone and Anglophone Africa, the Caribbean, North and South America. Organized according to trends, topics, and genres. Instructor: Ferraro, Moses, or Willis. One course. C-L: International Comparative Studies


390A-12. Special Topics in World Media. ALP, CCI Studies in the media and society in a national or international setting; offered only in a Duke study abroad program. Instructor: Staff. One course.

390A-13. Special Topics in World Literature and Culture. ALP, CCI Studies in literature and culture in a national or comparatist mode; offered only in a Duke study abroad program. Instructor: Staff. One course.

391. Independent Study. Non-research directed study on a previously-approved topic under the direction of a faculty member, resulting in an academic product. Consent of instructor required. Instructor: Staff. One course.

393. Research Independent Study. Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Instructor: Staff. One course.

412S. Cultures of New Media. ALP, SS, STS One course. C-L: see Cultural Anthropology 434S; also C-L: Visual and Media Studies 412S

430. Gender and Law. CCI, EI, SS One course. C-L: see Women's Studies 401; also C-L: Public Policy Studies 315


471S. Marxism and Culture. ALP A critical assessment of Marxist theory in relation to culture conceived broadly. Political and ethical questions may be considered in addition to artistic and social movements in various national contexts. Instructor: Staff. One course. C-L: Marxism and Society

475S. Queer Theory. ALP, CCI, SS One course. C-L: see Women's Studies 370S; also C-L: Study of Sexualities 470S, Marxism and Society
485S. Existentialism Between Cultures. ALP, CCI, EI Post-war existentialism in France and Britain in literature and philosophy, focusing on the ethics of existentialism (in particular the ethical consequences of the existentialist understanding of freedom), and the cultural difference between French and British forms of existentialism. Writers such as Sartre, de Beauvoir, Camus, D. Lessing, Murdoch, Osborne, A. S. Byatt. Instructor: Moi. One course.

486S. Ordinary Language Philosophy. ALP An introduction to one of the most powerful visions of language in the 20th century, focused on works by Wittgenstein, Austin, and Cavell. Instructor: Moi. One course. C-L: English 485S, Philosophy 486S

490-1. Special Topics in Theory. ALP An advanced investigation of major concepts and principles in literary and/or cultural theory. Contents and methods vary with instructors. Instructor: Staff. One course.

490S-1. Special Topics Theory. An advanced investigation of major concepts and principles in literary and/or cultural theory. Contents and methods vary with instructors. Instructor: Staff. One course.

490S-2. SPECIAL TOPICS IN LITERATURE. Special Topics in Literature. Instructor: Staff. One course.

495. Honors Thesis I. ALP, R, W First semester of a two-semester sequence, in which Literature majors begin the year-long honors program. No credit given for Literature 495 without completion of Literature 496. Does not count towards the ten Literature courses required for the major. Instructor: Staff. One course.

496. Honors Thesis II. ALP, R, W Continuation of Literature 495 in which Literature majors finish the year-long honors program. Does not count towards the ten Literature courses required for the major. Prerequisite: Literature 495. Instructor: Staff. One course.

520S. Performance Studies. ALP One course. C-L: see Theater Studies 533S

521S. Historical and Philosophical Perspectives on Science. CZ, STS One course. C-L: see Philosophy 541S; also C-L: Women's Studies 541S, History 577S

530S. Seminar in Asian and Middle Eastern Cultural Studies. CZ One course. C-L: see Asian & Middle Eastern Studies 505S; also C-L: African and African American Studies 540S

540S. Methods and Theories of Romance Studies. ALP, CCI, R One course. C-L: see Romance Studies 501S

541. Medieval Fictions. ALP, CCI, FL One course. C-L: see French 530; also C-L: Medieval and Renaissance Studies 642

541S. The Symbolist Movement in the Arts & European Thought. ALP, CZ One course. C-L: see Art History 541S

542S. Literary Guide to Italy. ALP, CCI, CZ One course. C-L: see Italian 586S; also C-L: German 586S, Arts of the Moving Image 640S

571. East Asian Cultural Studies. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 605; also C-L: Cultural Anthropology 605, International Comparative Studies

572S. Antonio Gramsci and the Marxist Legacy. CCI, CZ, SS One course. C-L: see Italian 588S

573S. Ethnohistory of Latin America. CCI, CZ, R, SS One course. C-L: see Cultural Anthropology 570S; also C-L: History 540S

610S. Basic Concepts in Cinema Studies. ALP Review of theory, methodology, and debates in study of film under three rubrics: mode of production or industry; apparatus or technologies of cinematic experience; text or the network of filmic systems (narrative, image, sound). Key concepts and their genealogies with the field: gaze theory, apparatus theory, suture, indexicality, color, continuity. Instructor: Mottahedeh. One course. C-L: Arts of the Moving Image 610S, Arts of the Moving Image

611S. Film Feminisms. ALP, CCI, CZ Philosophical debates and approaches to the female form in film theory and history. Phenomenology, cultural studies, Marxism, psychoanalysis, structuralism, post-structuralism, as well as gaze theory, apparatus theory, and feminist film theory as they approach readings of
the body, subjectivity and identity in cinema. Questions of spectatorship and the gendered subject. Screening and discussion of Hollywood and European avant garde films key to early debates, and of international films central to debates around the gendered subject and representation in modernity. Interrogation of feminist approaches to national cinemas. Instructor: Mottahedeh. One course. C-L: Women's Studies 512S, Arts of the Moving Image

612S. Theories of the Image. ALP Different methodological approaches to theories of the image (film, photography, painting, etc.), readings on a current issue or concept within the field of the image. Examples of approaches and topics are feminism, psychoanalysis, postmodernism, technology, spectatorship, national identity, authorship, genre, economics, and the ontology of sound. Instructor: Jameson, Mottahedeh, or staff. One course.


621S. Critical Studies in New Media. ALP, R, SS, STS One course. C-L: see Visual and Media Studies 561S; also C-L: Art History 537S, Arts of the Moving Image, Policy Journalism and Media Studies

622. Science Studies. ALP, STS Key texts and crucial issues in contemporary history, sociology, and philosophy of science—or, as the assemblage is sometimes called, 'science studies.' Focus on theoretical and Key texts and crucial issues in contemporary history, sociology, and philosophy of science - or, as the assemblage is sometimes called, 'science studies.' Focus on theoretical and methodological problems leading to a critiques of classical conceptions of knowledge and scientific truth, method, objectivity, and progress, and the development of alternative conceptions of the construction and stabilization of knowledge and the relations between scientific and cultural practices. Readings include L. Fleck, K. Popper, P. Feyerabend, T. Kuhn, S. Shapin and S. Schaffer, and B. Latour. One course. C-L: Information Science and Information Studies

623. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America. ALP, CCI, STS One course. C-L: see Information Science and Information Studies 670; also C-L: Philosophy 570, Genome Sciences and Policy

624S. Post-Digital Architecture. ALP, R Impact of advanced technology on conceptions of architectural design, new urban environments, & the body since the mid-1990s. Postmodernism & role of time-based new media, game environments & virtual worlds technologies in the rise of digital architecture from the late 1990s-2000s. Theoretical readings from Deleuze, Pask, Grosz, Massumi, Denari, Einseman, Koolhaas, Lynn, Diller + Scofidio. Explores programs for post-digital architecture that integrate nano & biomimetic technologies, smart materials & protocols into self-organizing designs for living architecture & reflexive environments. Discuss how post-digital architecture will engage the work of Simondon, Spillers, Armstrong,others. Topics course. Instructor: Lenoir. One course. C-L: Information Science and Information Studies 624S

625S. Comparative Media Studies. ALP, STS Explores the impact of media forms on content, style, form, dissemination, & reception of literary & theoretical texts. Assumes media forms are materially instantiated & investigates their specificities as important factors in their cultural work. Puts different media forms into dialogue, including print, digital, sonic, kinematic & visual texts, & analyzes them within a theoretically informed comparative context. Focuses on twentieth & twenty-first century theories, literatures, & texts, esp. those participating in media upheavals subject to rapid transformations. Purview incl. transmedia narratives, where different versions of connected narratives appear in multiple media forms. Instructor: Hayles. One course. C-L: Information Science and Information Studies 615S, Visual and Media Studies 625S
640S. Theory and Practice of Literary Translation. ALP, CCI, W Linguistic foundations, historical roles, contemporary cultural and political functions of literary translation. Readings in translation theory, practical exercises and translation assignments leading to a translation project. One course. C-L: German 511S, Islamic Studies

644. Modernism. Aspects of the "modern," sometimes with emphasis on the formal analysis of specific literary and nonliterary texts (Joyce, Kafka, Mahler, Eisenstein); sometimes with a focus on theories of modernism (Adorno), or on the modernism/postmodernism debate, or on the sociological and technological dimensions of the modern in its relations to modernization, etc. Instructor: Jameson or Lentricchia. One course.

672. Representation in a Global Perspective. ALP, CCI Problems of representation approached in ways that cross and question the conventional boundaries between First and Third World. Interdisciplinary format, open to exploration of historical, philosophical, archeological, and anthropological texts as well as literary and visual forms of representation. Instructor: Dorfman, Jameson, or Mignolo. One course.

681S. Wittgensteinian Perspectives on Literary Theory. ALP Key questions in literary theory reconsidered from the point of view of ordinary language philosophy (Wittgenstein, J. L. Austin, Cavell). Topics will vary, but may include: meaning, language, interpretation, intentions, fiction, realism and representation, voice, writing, the subject, the body, the other, difference and identity, the politics of theory. New perspectives on canonical texts on these subjects. Instructor: Moi. One course. C-L: English 582S

682. The Intellectual as Writer. ALP, CZ History and theory of the literary role of the intellectual in society (e.g., in Augustan Rome, the late middle ages, the Renaissance, America, Latin America). Instructor: Jameson, Lentricchia, Moi, Mudimbe, or Surin. One course.

683. Studies in Legal Theory. A consideration of those points at which literary and legal theory intersect (e.g., matters of intention, the sources of authority, the emergence of professional obligation). Instructor: Moi. One course.

690. Special Topics in Literature. ALP Topics vary by semester. Instructor: Staff. One course.

690S. Special Topics in Literature. ALP Topics vary each semester. Instructor: Staff. One course.

690-1. Special Topics in Literature of the Modern Era. ALP Study of a particular author, genre, or theory of modern literature. Topics include changing understandings of authorship, questions of reception, translation, and the history of criticism. Instructor: Staff. One course.

690-3. Topics in Cultural Studies. ALP Instructors: Surin or staff. One course.

690S-3. Topics In Cultural Studies. ALP Contents and methods vary with instructors and from semester to semester. Instructor: Staff. One course.

690-4. Special Topics in Film. ALP Selected film directors with attention to their visual style. Auteur theory or authorship as a way of understanding the cinematic work of European, American, Asian, or African masters of the form. Instructor: Lentricchia. One course.

690S-4. Special Topics in Film. ALP Contents and methods vary with instructors and from semester to semester. Instructor: Staff. One course.

690-6. Topics in Psychoanalytic Criticism. Instructor: Moi or Viego. One course.

690-7. Special Topics in Literature and History. ALP, CZ Relationship of literary texts to varieties of historical experience such as wars, periods of revolutionary upheaval, periods of intense economic growth, "times of troubles," or stagnation. Literary texts and historical content posed in such formal ways as the theoretical problem of the relationship between literary expression and form and a range of historical forces and phenomena. Instructor: Jameson or Kaplan. One course.

690-8. Special Topics in Literature: Paradigms of Modern Thought. ALP, CZ Specialized study of the work of individual thinkers who have modified our conceptions of human reality and social and cultural history, with special emphasis on the form and linguistic structures of their texts considered as "language
experiments.' Topics vary from year to year, including: Marx and Freud, J.P. Sartre, and Walter Benjamin.
Instructor: Jameson, Moi, Mudimbe, or Surin. One course. C-L: Marxism and Society

690S-8. Special Topics in Literature: Paradigms of Modern Thought. ALP, CZ
Specialized study of the work of individual thinkers who have modified our conceptions of human reality and social and cultural history, with special emphasis on the form and linguistic structures of their texts considered as 'language experiments.' Topics vary from year to year, including: Marx and Freud, J.P. Sartre, and Walter Benjamin. Seminar version of Literature 690-8. Instructor: Jameson or staff. One course.

695S. Literature Seminar. ALP
Contents and methods vary with instructors and from semester to semester. Instructor: staff. Variable credit.

THE MAJOR
The Literature Program's major in Global Cultural Studies is an exciting course of study for undergraduates interested in investigating the forms of life and culture produced in today's interconnected, globalized world. The major is committed to the notion that the humanities produce a distinct kind of knowledge that is essential for understanding and engaging the complexities of the contemporary social environment. The program's courses in literary studies, critical theory, gender studies and queer theory, philosophy, political theory, film, visual culture, and new media form the foundation for such inquiry. With its distribution of courses across three domains of inquiry - Experience, Interpretation, Medium - the major aims to provide students with the broad knowledge base and analytical skills that will prepare them for leadership roles in the 21st century. Graduates of the major have gone on to shape unique career trajectories in law, medicine, public policy, teaching, journalism, publishing, and the creative cultural industries, as well as to pursue graduate study at top programs in the humanities.

Requirements for the Major: The major in Global Cultural Studies is comprised of ten courses. All majors are required to take a gateway course, "Gateway to Global Cultural Studies" (101S), and an upper-level course, "Theory Today" (301S), as well as four core courses distributed across three domains of inquiry, with at least one course selected from each category (Experience, Interpretation, Medium). In addition, students choose three electives from across the humanities offerings at Duke and must fulfill the "senior culminating experience" requirement. Please visit our website for further information: http://literature.duke.edu/undergraduate.

THE MINOR
The Literature Program's minor in Global Cultural Studies offers Duke students an opportunity to complement their field of concentration - whether it be computer science or chemistry, environmental studies or economics, music or mathematics - with a humanities focus. Students will select a suite of courses designed to thematize the larger cultural contexts of their scholarly interests.

Requirements for the Minor: The minor in Global Cultural Studies is comprised of five courses. All minors are required to take a gateway course (101S) as well as three core courses distributed across at least two of the three domains of humanistic inquiry (Experience, Interpretation, Medium), and one elective. Please visit our website for further information: http://literature.duke.edu/undergraduate.

Departmental Graduation with Distinction
To receive Graduation with Distinction students must satisfy University GPA requirements and submit an application by the beginning of the fall semester of their junior year. They must have a minimum overall GPA of 3.0, a GPA of 3.5 in the major, and an honors thesis grade of B+ or above.

Students accepted into the distinction program must take the Honors Seminar sequence (Literature 495 and 496). A final grade will be issued at the end of the spring term. (A grade of "Z" will be issued at the end of the fall term.) Students must write an honors thesis and submit it by the official submission date. They will defend the thesis before a three-member committee consisting of the thesis advisor, the Honors Program Coordinator, and a third reader chosen from among the members of the Literature faculty and affiliated faculty. The committee determines the grade for the thesis, which becomes the grade of the Honors Seminar sequence. The two honors seminars do not count towards the ten Literature courses required for the major.

418 Courses and Academic Programs
Marine Science and Conservation Leadership

Professor Van Dover, Director

A certificate, but not a major, is available in this program.

This certificate program offers all undergraduates at Duke University the opportunity to supplement their majors with studies of leadership in marine science and conservation. The Program is designed to expand the academic breadth of Duke undergraduates who wish to pursue graduate degrees in biology, environmental science, social science, and policy, as well as professional careers in medicine and other disciplines. It seeks to stimulate interdisciplinary studies, including the human dimension, using marine systems as a model. It also fosters leadership skills in communication, management, values, and ethics. Students apply biological and ecological principles to the study of marine organisms and develop and evaluate solutions to conservation challenges. They are encouraged to think reflectively about their roles as citizens and leaders and the philosophical, ethical, and practical positions they will face in these roles.

The Certificate Program requires a residential component at Duke’s Marine Laboratory in Beaufort, NC, for one full academic semester (fall or spring) or both summer terms. All Certificate students thus become Marine Lab Scholars and are eligible to become Rachel Carson Scholars. These Scholars Programs offer additional resources and research and service opportunities for undergraduate students. Marine Lab residence features opportunities that bring Duke undergraduates together with local, regional, national, and international leaders in formal and informal settings, as well as special training sessions on leadership skills.

COURSE OF STUDY

The Marine Science and Conservation Leadership Program is rooted in marine science and conservation, but includes studies in a variety of disciplines – biology, earth and ocean sciences, economics, engineering, environmental sciences and policy, markets and management studies, philosophy, political science, public policy, religion, and theater studies. The introductory course on environmental sciences and policy introduces students to the integration of natural and social sciences and a means of evaluating an environmental issue and developing an effective solution. A capstone course is required of all students during the spring semester of their senior year.

CERTIFICATE REQUIREMENTS

The certificate requirements are: (1) a total of six courses: one introductory course (Environment 102 or Environment 201 with permission, for students who place out of Environment 102), one leadership, ethics, management, or communication course, two marine science courses (one natural science and one social science), one marine conservation course, and one capstone course taken during spring of the senior year; (2) no more than three courses may originate in a single department; and (3) no more than two courses that are counted toward the Marine Science and Conservation Leadership Certificate may also satisfy the requirements of any major, minor, or other certificate program. Appropriate courses may come from the list below or may include other courses as approved by the Director. Acceptance into the Certificate Program does not guarantee enrollment in electives, with the exception of the Capstone Course.

PROGRAM ENROLLMENT

All students are eligible to enroll in the program. Enrollment must be done via the Duke Marine Laboratory Web site: http://nicholas.duke.edu/marinelab/programs/certificate.html.

PROGRAM COURSES

Introductory Courses
Biology
201L. Gateway to Biology: Molecular Biology
293A. Research Independent Study
293A-1. Research Independent Study
374LA. Marine Molecular Ecology
490TA. Tutorial (Topics)
490TA-1. Tutorial (Topics)
493A. Research Independent Study

English
219A. Science and Nature Writing: Naturalist Narratives, Classic to Contemporary

Environment
102. Introduction to Environmental Sciences and Policy
201. Integrating Environmental Sciences and Policy
219A. Science and Nature Writing: Naturalist Narratives, Classic to Contemporary
286. Marine Policy
382LA. Marine Molecular Ecology
585A. Fisheries Ecology

Public Policy Studies
263. Border Crossing: Leadership, Value Conflicts, and Public Life

Leadership/Ethics/Management/Communication Courses

Biology
255. Philosophy of Biology

Documentary Studies
353A. Views of Environmental Change: Documentary Research in Natural Resource Management

Engineering
350S. Ethics in Professions: Scientific, Personal and Organizational Frameworks

Environment
214S. Ethical Challenges in Environmental Conservation
218S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding
289A. Views of Environmental Change: Documentary Research in Natural Resource Management
580A. Green Futures: Exploring Environmental, Economic, and Social Sustainability

Markets and Management Studies
210. Managerial Effectiveness

Philosophy
215. Applied and Environmental Ethics
314. Philosophy of Biology

Political Science
367S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

Public Policy Studies
259S. Women as Leaders
265. Leadership, Development, and Organizations
271S. Social Entrepreneurship in Action
279S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding
302D. Policy Choice as Value Conflict

Religion
287. Religion and Science: Biology, Minds, and Souls
321S. Buddhist Ethics

Study of Ethics

Theater Studies
103S. Communication, Improvisation, and Business

Marine Science: Natural Science Courses

Biology
157. The Dynamic Oceans
175LA. Marine Biology
272A. Analysis of Ocean Ecosystems
273LA. Marine Ecology
275A. Biology for Engineers: Informing Engineering Decisions
278LA. Physiology of Marine Animals
293. Research Independent Study
293-1. Research Independent Study
369LA. Biological Oceanography
372LA. Biochemistry of Marine Animals
373LA. Sensory Physiology and Behavior of Marine Animals
377LA. Marine Invertebrate Zoology
378LA. Marine Ichthyology
379LA. Research Methods in Marine Science
380LA. Marine Molecular Microbiology
493. Research Independent Study

**Earth and Ocean Sciences**
102. The Dynamic Oceans
202. Atmosphere and Ocean Dynamics
272A. Analysis of Ocean Ecosystems
273LA. Biological Oceanography
280LA. Sound in the Sea: Introduction to Marine Bioacoustics
315. Waves, Beaches, and Coastline Dynamics
323. Hydrogeology
364S. Changing Oceans
370A. Introduction to Physical Oceanography
374LA. Marine Ecology
377LA. Marine Invertebrate Zoology
404S. Geology of Tropical Marine Environments
513S. Greening the Seven Seas: Marine Environmental Sustainability

**Electrical and Computer Engineering**
384LA. Sound in the Sea: Introduction to Marine Bioacoustics

**Environment**
272A. Analysis of Ocean Ecosystems
273LA. Marine Ecology
278LA. Physiology of Marine Animals
280LA. Sound in the Sea: Introduction to Marine Bioacoustics
362S. Changing Oceans
369LA. Biological Oceanography
370A. Introduction to Physical Oceanography
372LA. Biochemistry of Marine Animals
377LA. Marine Invertebrate Zoology
378LA. Marine Ichthyology
379LA. Research Methods in Marine Science
383LA. Marine Molecular Microbiology
513S. Greening the Seven Seas: Marine Environmental Sustainability
533A. Marine Fisheries Policy
573A. Coastal Ecotoxicology and Pollution

**SPECIAL TOPICS COURSES OFFERED PERIODICALLY**

**Environment**
298. Fisheries Ecology

**Marine Science: Social Science Courses**

**Biology**
156. Genetics, Genomics, and Society: Implications for the 21st Century

**Documentary Studies**
248S. Environmental Conservation and Documentary Photography

**Economics**
439. Economics of the Environment
530. Resource & Environmental Economics I
530L. Resource and Environmental Economics

**Environment**
222S. Environmental Conservation and Documentary Photography
283A. Hollywood and the Environment: Exploring the Human Connection with Nature Through Film
286A. Marine Policy
363. Economics of the Environment
520. Resource & Environmental Economics I
520L. Resource and Environmental Economics
551DA. International Conservation and Development
752. Sustainability and Renewable Resource Economics

**Genome Sciences and Policy**
156. Genetics, Genomics, and Society: Implications for the 21st Century

**Public Policy Studies**
576. Resource & Environmental Economics I

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*Marine Science and Conservation Leadership* 421
Marine Conservation Courses

**Biology**
- 205. Marine Megafauna
- 270A. Conservation Biology and Policy
- 375A. Biology and Conservation of Sea Turtles
- 375LA. Biology and Conservation of Sea Turtles
- 376A. Marine Mammals
- 376LA. Marine Mammals
- 571LA. Sojourn in Singapore: Urban Tropical Ecology

**Environment**
- 205. Marine Megafauna
- 270A. Conservation Biology and Policy
- 287A. Marine Conservation Service Learning Course: Challenges at Sea
- 375A. Biology and Conservation of Sea Turtles
- 375LA. Biology and Conservation of Sea Turtles
- 376A. Marine Mammals
- 376LA. Marine Mammals

**SPECIAL TOPICS COURSES OFFERED PERIODICALLY**

**Environment**
- 236S. From Molecules to Management: Application of Molecular Tools to Marine Conservation

**SENIOR CAPSTONE COURSE**

**Environment**
- 350S. Marine Science and Conservation Leadership

**Public Policy Studies**
- 280S. Marine Science and Conservation Leadership

University Program in Marine Sciences

Professor Van Dover (environment), Director and Chair; Associate Professor Nowacek (environment and engineering), Director of Undergraduate Studies; Professor Rittschof (environment and biology); Associate Professors Campbell (environment), Halpin (environment), and Read (environment); Assistant Professors Basurto (environment), Hench (environment), Hunt (environment) and Johnson (environment); Professor Emeritus Barber (environment and biology) and C. Bonaventura (environment and cell biology); Professor of the Practice Orbach (environment); Professor of the Practice Emeritus Kirby-Smith (environment); Research Professors J. Bonaventura (environment and cell biology), Forward (environment and biology) and Ramus (environment and biology); Research Scientists Johnston (environment) and Schultz (environment); Assistant Research Scientist Friedlaender (environment)

The interdisciplinary program in marine sciences provides students with a unique opportunity to live and study at the Duke University Marine Laboratory for a full academic semester (fall or spring) or during two summer terms. The program emphasizes small class size, independent study, and integrated classroom, laboratory, and field experience. Students have daily access to modern scientific equipment, including a shared-use molecular laboratory, a specialized library, and the surrounding marine environment.

The Marine Lab serves students in the biological and environmental sciences as well as those in social science, humanities and a variety of other majors. Residential undergraduate courses are offered year-round (Fall, Spring, Summer Terms I and II). Fall and spring courses include Beaufort Signature Courses which offer students opportunities for extended travel with Duke faculty to places such as Costa Rica, France, Mexico, Panama, Puerto Rico and Singapore. Small class size and an island setting facilitate rewarding student-faculty interactions. For additional information contact the Academic and Enrollment Services Office, Duke University Marine Lab, 135 Duke Marine Lab Rd., Beaufort, North Carolina 28516, 252-504-7502, ml_enrollment@nicholas.duke.edu; or visit the Web site at http://www.nicholas.duke.edu/marinelab. Duke students in good standing and with adequate preparation are automatically accepted, but must notify the Academic and Enrollment Services Office (ml_enrollment@nicholas.duke.edu) of their intent to attend so their records can be appropriately coded for registration. Information on academic programs and financial
assistance available at the Duke Marine Lab may be found by visiting the Web site at http://www.nicholas.duke.edu/marinelab.

FALL SPRING, OR SUMMER COURSES AT BEAUFORT

The courses below are described in the bulletin listings of the specified departments. See also the Duke University Official Schedule of Courses or the Duke Marine Lab Web site (http://www.nicholas.duke.edu/marinelab) for the current schedule of courses. For information on courses fulfilling requirements for specific majors (including evolutionary anthropology, biology, earth and ocean sciences, environmental sciences and policy), minors (including biology, chemistry, environmental sciences and policy), and programs (including pre-health and the Marine Science and Conservation Leadership certificate) see the Marine Lab Web site’s Academic Programs section (http://www.nicholas.duke.edu/marinelab/programs) or consult the Director of Undergraduate Studies for the department.

Biology
175LA. Marine Biology
201LA. Gateway to Biology: Molecular Biology
205. Marine Megafauna
270A. Conservation Biology and Policy
272A. Analysis of Ocean Ecosystems
273LA. Marine Ecology
275A. Biology for Engineers: Informing Engineering Decisions
278LA. Physiology of Marine Animals
293. Research Independent Study
293-1. Research Independent Study
293A-1. Research Independent Study
369LA. Biological Oceanography
372LA. Biochemistry of Marine Animals
373LA. Sensory Physiology and Behavior of Marine Animals
374LA. Marine Molecular Ecology
375A. Biology and Conservation of Sea Turtles
375LA. Biology and Conservation of Sea Turtles
376LA. Marine Mammals
376LA. Marine Mammals
377LA. Marine Invertebrate Zoology
378LA. Marine Ichthyology
379LA. Research Methods in Marine Science
380LA. Marine Molecular Microbiology
490T. Tutorial
490T-1. Tutorial
490TA. Tutorial (Topics)
490TA-1. Tutorial (Topics)
493. Research Independent Study
493A. Research Independent Study
570LA-1. Experimental Tropical Marine Ecology
570LA-2. Marine Ecology of the Pacific Coast of California
570LA-3. Harmony in Brittany: French Use of Marine Environments
571LA. Sojourn in Singapore: Urban Tropical Ecology

Cell Biology
493. Research Independent Study

Documentary Studies
353A. Views of Environmental Change: Documentary Research in Natural Resource Management

Earth and Ocean Sciences
272A. Analysis of Ocean Ecosystems
273LA. Biological Oceanography
280LA. Sound in the Sea: Introduction to Marine Bioacoustics
316A. Beach and Island Geological Processes
370A. Introduction to Physical Oceanography
374LA. Marine Ecology
377LA. Marine Invertebrate Zoology
391. Independent Study
392. Independent Study
393. Research Independent Study
393A. Research Independent Study
394. Research Independent Study
394A. Research Independent Study

**Electrical and Computer Engineering**
384LA. Sound in the Sea: Introduction to Marine Bioacoustics

**English**
219A. Science and Nature Writing: Naturalist Narratives, Classic to Contemporary

**Environment**
205. Marine Megafauna
219A. Science and Nature Writing: Naturalist Narratives, Classic to Contemporary
270A. Conservation Biology and Policy
272A. Analysis of Ocean Ecosystems
273LA. Marine Ecology
278LA. Physiology of Marine Animals
279LA. Marine CSI: Conservation Forensics in the Marine Environment
280LA. Sound in the Sea: Introduction to Marine Bioacoustics
283A. Hollywood and the Environment: Exploring the Human Connection with Nature Through Film
286. Marine Policy
286A. Marine Policy
287A. Marine Conservation Service Learning Course: Challenges at Sea
289A. Views of Environmental Change: Documentary Research in Natural Resource Management
350S. Marine Science and Conservation Leadership
369LA. Biological Oceanography
370A. Introduction to Physical Oceanography
372LA. Biochemistry of Marine Animals
375A. Biology and Conservation of Sea Turtles
375LA. Biology and Conservation of Sea Turtles
376A. Marine Mammals
376LA. Marine Mammals
377LA. Marine Invertebrate Zoology
378LA. Marine Ichthyology
379LA. Research Methods in Marine Science
382LA. Marine Molecular Ecology
383LA. Marine Molecular Microbiology
390SA. Special Topics in Environmental Science and Policy
391. Independent Study
391A. Independent Study
393. Research Independent Study
393-1. Research Independent Study
393A. Research Independent Study
533A. Marine Fisheries Policy
551DA. International Conservation and Development
573A. Coastal Ecotoxicology and Pollution
580A. Green Futures: Exploring Environmental, Economic, and Social Sustainability
590. Special Topics
590SA. Seminar in Ocean Sciences

**Physics**
141L. General Physics I
142L. General Physics II

**Public Policy Studies**
280S. Marine Science and Conservation Leadership

**Markets and Management Studies (MMS)**

Professor Keister, **Director**

A certificate, but not a major, is available in this program.

The Markets and Management Studies Certificate Program at Duke is designed to meet the needs of Duke undergraduates who wish to study business issues and functions in preparation for careers in business and management, banking, consulting, government, the non-profit sector, and related graduate fields. Courses in the program emphasize three integrated themes: (1) globalization and organizational innovations in the world...
economy; (2) the social determinants and consequences of new or changing technologies; and (3) the effect of cross-cultural and institutional factors on management and entrepreneurship. Students may take clusters of three courses that fall under the same areas of globalization, technology, or entrepreneurship.

In addition to offering courses and a certificate after completion of the requirements, the Markets and Management Studies Program makes a concerted effort to bring Duke undergraduates closer to the business world in a variety of ways. The program sponsors lecturers and career events. Professors of the Practice teach the entrepreneurship, finance, and leadership courses. Additional information can be obtained from the director or the program coordinator in the Markets and Management Studies Program office.

**COURSE OF STUDY**

Organizational studies in the social sciences provide an innovative, liberal arts approach to business education. The Markets and Management Studies Program is rooted in sociology, but it also includes studies in a variety of disciplines—economics, history, political science, public policy studies, ethics, and management science. Each course in the program deals in some way with the impact of different organizational forms on managing human resources, coordinating work, integrating technology, and using business networks in an increasingly competitive global economy. The four overarching learning objectives of the program are: bridging theory and research, teamwork, communication skills, and active learning.

**CERTIFICATE REQUIREMENTS**

The certificate requirements are: (1) a total of seven courses: three core courses, one of which is Markets and Management Studies 450, an integrative capstone course taken in the senior year, and four elective courses; (2) no more than three courses may originate in a single department; and (3) no more than two courses that are counted toward the Markets and Management Studies Certificate may also satisfy the requirements of any major, minor, or other certificate program.

**PROGRAM ENROLLMENT**

Only sophomores and juniors who have officially declared their major may enroll in the program. Enrollment must be done via the Markets and Management Studies Web page: [http://www.markets.duke.edu](http://www.markets.duke.edu).

**Core Courses**

**450. Markets and Management Capstone. R, SS** Capstone course open only to students in the Markets and Management Studies Program. Includes review of major perspectives and concepts from the program's core courses, plus a team project involving business plans or alternatively a strategic plan to identify and resolve problems confronting actual companies, industries, and communities. Students also develop a case study research paper of a product, firm, industry, occupation, country, or region. Consent of Director of Markets and Management Studies Program required. Instructor: Gereffi, Jones, Nordgren, Reeves, Spenner, or Veraldi. One course.

**450A. Markets and Management Capstone. R, SS, W** Study of strategic management using consulting projects with companies, readings, and writing assignments. Course will show how the field of study evolved out of the integrative concerns of business policy into a more environmentally oriented area of strategic management. Focus on Financial Institutions. Open only to students in the Duke in New York: Financial Markets and Institutions program. Instructor consent required. Instructor: Veraldi. One course.

**450D. MARKETS/MGMNT CAPSTONE. R, SS** Discussion section version of Markets & Management Studies 450. Consent of MMS certificate director required. Instructor: Spenner, Gereffi, Jones. One course.

**Electives**

**106FS. Entrepreneurs and Their Values. EI, SS** Study of major theories of ethics, the profit motive, nature of corporation, foreign trade, insider trading, affirmative action, diversity, government regulation, employer/employee relations. Broad focus on moral, political and historical issues related to entrepreneurship. Course goal: to convince students that a basic grasp of the issues is critical to working as an entrepreneur is the world today. Instructor: Hull. One course.
108FS. Entrepreneurs and Creativity. SS Exploration of the sources of creative thinking from various perspectives; features a series of presentations from the country's leading entrepreneurs to discuss their creative processes, their ideas about generating ideas and their experiences building organizations that generate new ideas. Open only to students in the Focus Program. One course.

116FS. Freedom to and Freedom From-Tensions in the Business Arena. SS Discussion of two important freedoms: positive freedom to develop ourselves, reach potential, realize goals; and negative freedom from interference in actions or beliefs. Explore tensions between societies and free markets, the role of advertising, the bureaucratic structure of firms vs. individual creativity, line between public and private, effect of patents and property ownership on decisions and actions. Open to students in the Focus Program only. Instructor: Reeves. One course.

210. Managerial Effectiveness. SS, STS Introduction to study of individual and group behavior within organized settings. Emphasis given to managerial strategies that enhance organizational effectiveness. Topics include leadership, motivation and reward systems; decision making, power and politics; conflict management, globalization, justice and ethics; and organization culture, structure and design. Special attention to critical assessment of new technological options in organizational settings with an aim to produce informed, ethical consumers and managers. Instructor: Staff. One course. C-L: Marine Science and Conservation

220. Marketing Management. SS, STS Introduction to current basic principles and concepts in marketing. Focus on Internet's impact on traditional marketing methods. Exposure to marketing concepts in settings such as: consumer goods firms, manufacturing and service industries, small and large businesses. Development and trends in strategic implications of the Internet for consumer behavior, business opportunities, and marketing strategies. Instructor: Staff. One course.

240. Ethics in Management. EI, SS The meaning of moral values and their application to effective management and the role of business in society. Basic ethical questions of beneficiary, justice, and rights. How various ethical theories apply to concrete issues such as the profit motive, insider trading, affirmative action, and employer/employee relations. Instructor: Hull. One course.


247. Business in Literature. ALP, SS The image of business as presented in serious and popular literature; the impact such portrayals have on business and society. An understanding of the basic ideas behind novels and movies that present executives as heroes, ordinary people, and villains. Instructor: Hull. One course.

250. Integrated Marketing Communications. SS Theory of marketing communications and the nature and influence of communication strategies. Topics include impact of informational asymmetries, uncertainty, local culture, global branding, and the effects of technology on marketing communications. Marketing communications seen from perspective of social scientist and the corporate marketing manager. How technology communication changes have changed the way businesses communicate with customers and ways customers respond. Instructor: Reeves. One course.

272. Marketing Across Borders, Cultures and Demographics. SS Investigates and discusses theories and techniques used to market to the world's different shoppers and consumers in developing and industrialized economies and countries; gives an understanding of how to target market to shoppers and consumers by varied insights of each target group; Focuses on "Consumer is Boss" and the understanding of how to influence at "First Moment of Truth" and at the "Second Moment of Truth"; will include a team project developing collaboration skills and gaining insight into a specific target group and product; local field trips to engage consumers in homes and where they shop; guest lecturers from Fortune 500 corporations. One course.

360. Entrepreneurial Opportunities and Finance. SS Evaluation of entrepreneurial opportunities including analysis of markets; management teams; business financial models; company valuation; competitive landscape; future growth; expected technology changes; leverage of projected financial model. Analysis of early stage business; review of potential investment. Leadership interaction between students, entrepreneurs
and venture capital organizations. Prerequisite: Markets and Management Studies 85 and Sociology 359 or consent of the instructor. Instructor: Jones and Nordgren. One course.

**365. Strategic Financial Management. SS** Strategic financial issues confronting the firm. Basic problems of strategic direction for the firm with respect to external competitive environment and management of internal strategy processes. Tools and ideas to manage formulation and implementation of strategic choices for the firm. Study of firm's strategic position relative to rivals, the larger industry, and the customer. Prerequisite: Markets and Management Studies 85 and Economics 271 or Economics 373 or consent of instructor. Instructor: Veraldi. One course.

**370. Managerial Finance. SS** Concepts and processes of corporate finance; functions, technology and techniques of financial management. Topics include analysis of financial statements, ratio analysis and the statement of cash flows; capital budgeting; risk and return; stocks and bonds; cost of capital; financial institutions; securities markets and international finance. Not open to first year students, nor to students who have taken Markets and Management Studies 85. Instructor: Veraldi. One course.

**Special Topics**

**190FS. Special Topics in Markets and Managements. SS** Topics vary by semester. Open to students in the Focus Program only. One course.

**390A. Duke-Administered Study Abroad: Advanced Special Topics in Markets and Management Studies. CCI** Topics differ by section. Instructor: Staff. One course.

**490. Special Topics in Markets and Management Studies.** Topics vary each semester. Instructor: Staff. One course.

**490S. Special Topics Seminar in Markets and Management Studies.** Topics vary each semester. Instructor: Staff. One course.

**PROGRAM COURSES**

**Core Courses**

**Political Science**
349. International Business Government Relations

**Public Policy Studies**
265. Leadership, Development, and Organizations
271S. Social Entrepreneurship in Action

**Sociology**
342D. Organizations and Global Competitiveness
344. Technology and Organizational Environments
345. Nations, Regions, and the Global Economy
355. Organizations and Management
358. Markets and Marketing
359. The Sociology of Entrepreneurship

**Elective Courses**

**Art History**
261. The Contemporary Art Market
508S. Art and Markets
538S. Museum Theory and Practice

**Biomedical Engineering**
385. Introduction to Business in Technology-Based Companies

**Canadian Studies**
328SA. Made in Quebec: Marketing and Cultural Identity

**Cultural Anthropology**
170. Advertising and Society: Global Perspective
170D. Advertising and Society: Global Perspective
210. Global Culture
272S. Advertising and Masculinity
425. Globalization and Anti-Globalization

**Economics**
222D. American Business History
271. Basic Finance and Investments
274. Advanced Financial and Managerial Accounting
321S. Art and Markets
343. The Contemporary Art Market
355. International Trade
373. Corporate Finance
464. Competitive Strategy and Industrial Organization

**Engineering**
350S. Ethics in Professions: Scientific, Personal and Organizational Frameworks

**French**
328SA. Made in Quebec: Marketing and Cultural Identity

**History**
364D. American Business History

**International Comparative Studies**
404. Globalization and Anti-Globalization

**Medieval and Renaissance Studies**
506S. Art and Markets

**Philosophy**
270. Business Ethics: The Debate Over Corporate Social Responsibility

**Political Science**
321. International Law and International Institutions
346. Business, Politics, and Economic Growth
348. Non-State Actors in World Politics
348D. Non-State Actors in World Politics
350. Issues of International Political Economy

**Psychology**
425. The Psychology of Consumers (C,P)
426. Social Psychology of Business (P)

**Public Policy Studies**
288. International Trade

**Sociology**
160. Advertising and Society: Global Perspective
160D. Advertising and Society: Global Perspective
210. A-E. Comparative Sociology: Selected Areas
214. Cybernetworks and the Global Village
226. The Challenges of Development
229. Gender, Work, and Organizations
356. Global Contexts of Science and Technology
357. Organizations and Management in Global Capital Markets: an Ethical Perspective
365. Business Behaviors
368. Business and Politics in American Society

**Study of Ethics**
270. Business Ethics: The Debate Over Corporate Social Responsibility

**Theater Studies**
216S. Entrepreneurship and International Arts Management

**Visual and Media Studies**
170. Advertising and Society: Global Perspective
247. Global Culture
567S. Art and Markets

**Women's Studies**
241. Gender, Work, and Organizations
361. Money, Sex, Power

**Marxism and Society**
Michael Hardt, *Director*

A certificate, but not a major, is available in this program.

The Marxism and Society Program is devoted to the study of Marxist theory in its historical context and in relation to other contemporary theoretical paradigms, including theories of race, gender, and sexuality. The focus is on Marxism, not primarily as a political or ideological system, but as a scholarly methodology.
incorporating a variety of analytical techniques across a wide range of disciplines. Topics covered include sexual and racial inequality, alienation, development and underdevelopment in the world system, labor processes, protest movements, and ideologies.

The program requires six courses, including a gateway course, Marxism and Society (Literature 470, cross-listed as Cultural Anthropology 203, Education 239, and Sociology 339) and the capstone course, Paradigms in Modern Thought (Literature 690-8) taught by Fredric Jameson. Four additional approved courses satisfy the requirements of the Program. No more than three courses originating in a single department or program may satisfy the program of study.

**African and African American Studies**
- 131. The Third World and the West I
- 132. The Third World and the West II
- 134. Old Worlds/New Histories, 500-1500 CE
- 246. Comparative Race and Ethnic Studies
- 307. Development and Africa
- 340. Culture and Politics in Africa

**Art History**
- 281. Global Art Since 1945
- 285D. Modern Architecture

**Arts of the Moving Image**
- 264. Russian Revolutionary Cinema

**Asian & Middle Eastern Studies**
- 237. China and the United States

**Cultural Anthropology**
- 130. Anthropology and Film
- 130D. Anthropology and Film
- 195. Comparative Approaches to Global Issues
- 203. Marxism and Society
- 210. Global Culture
- 241. Culture and Politics in China
- 242. Culture and Politics in Africa
- 243. Culture and Politics in Latin America
- 271. Gender and Culture
- 301. Theoretical Foundations of Cultural Anthropology
- 307. Development and Africa
- 423. Sex and Money
- 429. Gender and Sexuality in Latin America

**Economics**
- 311. History of Economic Thought

**Education**
- 101. Social and Philosophical Foundations of Education
- 239. Marxism and Society

**English**
- 180. Introduction to Cultural Studies
- 270. Classics of American Literature, 1860 to 1915

**German**
- 380. Marx, Nietzsche, Freud

**History**
- 103. Comparative Approaches to Global Issues
- 105. Old Worlds/New Histories, 500-1500 CE
- 131. The Third World and the West I
- 132. The Third World and the West II
- 221. China and the United States
- 281. Russian Revolutionary Cinema
- 307. History of Economic Thought
- 338. The New Nation: The United States, 1800 to 1860

**International Comparative Studies**
- 104. Anthropology and Film
- 195. Comparative Approaches to Global Issues
- 203. Gender and Culture
- 219. Global Art Since 1945
- 221. China and the United States
231D. Modern Architecture
325. Culture and Politics in Latin America
426. Gender and Sexuality in Latin America

Literature
150. Introduction to Cultural Studies
280. Marx, Nietzsche, Freud
380. Marxism and Society
390-10. Special Topics in Literature and National Cultures, Ethnicity, Race
390S-10. Special Topics in Literature and National Cultures, Ethnicity, Race
471S. Marxism and Culture
475S. Queer Theory
690-8. Special Topics in Literature: Paradigms of Modern Thought

Philosophy
286. Marx, Nietzsche, Freud

Political Science

110. Comparative Approaches to Global Issues
378. Marx, Nietzsche, Freud

Public Policy Studies
207. Development and Africa

Religion
195. Comparative Approaches to Global Issues

Russian
380S. Russian Culture in the Era of Terror: A Reexamination
381. Russian Revolutionary Cinema

Sociology
195. Comparative Approaches to Global Issues
226. The Challenges of Development
316. Comparative Race and Ethnic Studies

Spanish
430. Literature of Contemporary Spain

Study of Sexualities
470S. Queer Theory

Visual and Media Studies
130. Anthropology and Film
180. Introduction to Cultural Studies
229. Culture and Politics in Africa
247. Global Culture

Women's Studies
199S. Thinking Gender: An Introduction to Feminist Theory
217. Gender and Culture
277. Global Art Since 1945
361. Money, Sex, Power
370S. Queer Theory
429. Gender and Sexuality in Latin America

Mathematics (MATH)

Professor H. Layton, Chair; Professor Aspinwall, Associate Chair; Professor Schoen, Director of Undergraduate Studies; Assistant Professor of the Practice C. Bray, Supervisor of First-year Instruction, Associate Director of Undergraduate Studies; Professors Aspinwall, Beale, H. Bray, Bryant, Calderbank, Daubechies, Durrett, Hain, Harer, H. Layton, Liu, Miller, Pardon, Petters, Reed, Rose, Saper, Schoen, Stern, Venakides, Wittelski, and Zhou; Associate Professors Kraines, Mattingly, Ng, and Plesser; Assistant Professors A. Layton, Maggioni, Mukherjee, and Nolen; Professors Emeriti Hodel, Kitchen, Moore, Smith, Warner, and Weisfeld; Associate Professor of the Practice Blake; Assistant Research Professors Berkesch, Cederbaum Joshi, Matic, and Totz; Adjunct Professors Dong and Wahl; Lecturer Bar-On

A major or a minor is available in this department.

21. Introductory Calculus I. QS Credit awarded on the basis of national/international examinations in mathematics such as College Board, International Baccalaureate, British Advanced Level. Equivalent to
Mathematics 111L as a prerequisite, except that students entering Mathematics 112L in the fall must have taken Mathematics 111L or Mathematics 106L at Duke. Instructor: Staff. One course.

**89S. First-Year Seminar.** Topics vary each semester offered. Instructor: Staff. One course.

**105L. Laboratory Calculus and Functions I. QS** A study of functions with applications, and an introduction to differential calculus, with a laboratory component. Topics include a review of algebra and functions, mathematical modeling with elementary functions, rates of change, inverse functions, logarithms and exponential functions, the derivative, graphical interpretations of the derivative, optimization, related rates. Not open to students who have credit for Mathematics 21 or 111L. Instructor: Staff. One course.

**106L. Laboratory Calculus and Functions II. QS** A continuation of Mathematics 105L. Topics include zeros of functions, antidifferentiation, initial value problems, differential equations, Euler's method, slope fields, review of trigonometry, modeling with trigonometric functions, Riemann sums, the Fundamental Theorem of Calculus, integration by substitution, integration by parts, separation of variables, systems of differential equations. Students who complete this course can enroll in Mathematics 112L. Not open to students who have credit for Mathematics 21 or 111L. Instructor: Staff. One course.

**111L. Laboratory Calculus I. QS** Introductory calculus with a laboratory component. Emphasis on laboratory projects, group work, and written reports. Differentiation, transcendental functions, optimization, differential equations, numerical approximations, Euler's method, the Fundamental Theorem, separation of variables, slope fields, and mathematical modeling. Not open to students who have credit for Mathematics 105L or 106L. Instructor: Staff. One course.

**112L. Laboratory Calculus II. QS** Second semester of introductory calculus with a laboratory component. Emphasis on laboratory projects, group work, and written reports. Methods of integration, applications of integrals, functions defined by integration, improper integrals, introduction to probability and distributions, infinite series, Taylor polynomials, series solutions of differential equations, systems of differential equations, Fourier series. Not open to students who have had Mathematics 122 or 122L. Prerequisite: Mathematics 106L or 111L or consent of instructor. Instructor: Staff. One course.

**121. Introductory Calculus I. QS** First topics in introductory calculus including differentiation, transcendental functions, optimization, numerical approximations, and the Fundamental Theorem. For transfer credit only. One course.

**122. Introductory Calculus II. QS** Transcendental functions, techniques and applications of integration, indeterminate forms, improper integrals, infinite series. Not open to students who have had Mathematics 112L or 122L. Prerequisite: Mathematics 21. Instructor: Staff. One course.

**122L. Introductory Calculus II with Applications. QS** Topics include sequences and series, the definition of the integral and its uses, Taylor and Fourier Series, differential equations and mathematical models. The weekly labs will involve explorations of applications, techniques, and Theory. Prerequisite: Advanced placement credit for Mathematics 21. Not open to students who have taken Mathematics 106L, 111L, 112L, or 122. Instructor: Staff. One course.

**165S. Cryptography and Society. QS, STS, W** Introduction to basic ideas of modern cryptography with emphasis on history and mathematics of encryption, applications in daily life, and implications for the individual and society. Topics may include: mathematical tools needed to analyze cryptosystems, including public key and stream ciphers; zero-knowledge protocols; attacks on "real-life" cryptosystems such as Enigma and the Data Encryption Standard; digital signatures, secure web connections; cryptography, free speech and copyright/fair use issues; applications to electronic communications and electronic commerce; privacy, computer security, and law enforcement; limitations and failures of modern cryptography. Instructor: Staff. One course.

**168. Mathematical Investigations in Genetics and Genomics. QS** Introduction to basic mathematical methods in genetics and genomics: Mendelian segregation, population allele frequencies, sex-linked traits, genetic recombination, sequence analysis, phylogenetic trees. Necessary background in elementary mathematics.
probability, statistics, and matrix algebra will be provided. Prerequisite: Mathematics 32, 32L, or 41L. Instructor: Staff. One course.

181. Math Everywhere: Mathematical Concepts and Reasoning in our Modern World. QS Mathematical concepts and reasoning, and their essential and exciting roles in our modern world. Topics include but not limited to: storage and communication of data, images, and music; social networks; evaluation of assessments based on statistics; design of visuals for video games and animated movies. Designed for students without college math but with interest in mathematical concepts important to modern applications. Six largely independent units, focused on building understanding and appreciation rather than development of mathematical techniques. Transfer credit not accepted as equivalent. Instructor: Staff. One course.

202. Multivariable Calculus for Economics. QS Gaussian elimination, matrix algebra, determinants, linear independence. Calculus of several variables, chain rule, implicit differentiation. Optimization, first order conditions, Lagrange multipliers. Integration of functions of several variables. Prerequisite: Mathematics 122, 112L or 122L. Not open to students who have taken Mathematics 212. Instructor: Staff. One course.

212. Multivariable Calculus. QS Partial differentiation, multiple integrals, and topics in differential and integral vector calculus, including Green's theorem, the divergence theorem, and Stokes's theorem. Not open to students who have taken Mathematics 202. Prerequisite: Mathematics 122, 112L, or 122L. Instructor: Staff. One course.

216. Linear Algebra and Differential Equations. QS Systems of linear equations, matrix operations, vector spaces, linear transformations, orthogonality, determinants, eigenvalues and eigenvectors, diagonalization, linear differential equations and systems with constant coefficients and applications, computer simulations. Intended primarily for engineering and science students. Prerequisite: Mathematics 202, 212 or 222. Not open to students who have had Mathematics 221. Instructor: Staff. One course.

221. Linear Algebra and Applications. QS Systems of linear equations and elementary row operations, Euclidean n-space and subspaces, linear transformations and matrix representations, Gram-Schmidt orthogonalization process, determinants, eigenvectors and eigenvalues; applications. Not open to students who have taken Mathematics 216. Prerequisite: Mathematics 122, 112L or 122L. Instructor: Staff. One course. C-L: Modeling Biological Systems

222. Advanced Multivariable Calculus. QS Partial differentiation, multiple integrals, and topics in differential and integral vector calculus, including Green's theorem, Stokes's theorem, and Gauss's theorem for students with a background in linear algebra. Not open to students who have taken Mathematics 202 or 212. Prerequisite: Mathematics 221. Instructor: Staff. One course.

281S. Problem Solving Seminar. QS Techniques for attacking and solving challenging mathematics problems and writing mathematical proofs. Course may be repeated. Consent of instructor required. Instructor: Staff. Half course.

305. Number Theory. QS Similar to Mathematics 305S but not taught in seminar format. Instructor: Staff. One course.

305S. Number Theory. QS, R Divisibility properties of integers, prime numbers, congruences, quadratic reciprocity, number-theoretic functions, simple continued fractions, rational approximations; contributions of Fermat, Euler, and Gauss. Prerequisite: Mathematics 122, 112L, 122L, or consent of instructor. Individual research paper required. Instructor: Staff. One course. C-L: Information Science and Information Studies

323S. Geometry. QS, R Euclidean geometry, inverse and projective geometries, topology (Möbius strips, Klein bottle, projective space), and non-Euclidean geometries in two and three dimensions; contributions of Euclid, Gauss, Lobachevsky, Bolyai, Riemann, and Hilbert. Research project and paper required. Prerequisite: Mathematics 122, 112L, 122L, or consent of instructor. Instructor: Staff. One course.

333. Complex Analysis. QS Complex numbers, analytic functions, complex integration, Taylor and Laurent series, theory of residues, argument and maximum principles, conformal mapping. Prerequisite: Mathematics 212 and 221 or consent of instructor. Instructor: Staff. One course.
340. Advanced Introduction to Probability. QS Advanced introduction to basic, non-measure theoretic probability covering topics in more depth and with more rigor than MATH 230. Topics include random variables with discrete and continuous distributions. Independence, joint distributions, conditional distributions, generating functions, Bayes' formula, and Markov chains. Rigorous arguments are presented for the law of large numbers, central limit theorem, and Poisson limit theorems. Prerequisite: Mathematics 202, 212, or 222. Not open to those who have taken Mathematics 230 or Statistics 230. Instructor: Staff. One course. C-L: Statistical Science 231

342. Statistics. QS One course. C-L: see Statistical Science 250; also C-L: Information Science and Information Studies


356. Elementary Differential Equations. QS First and second order differential equations with applications; linear systems of differential equations; Fourier series and applications to partial differential equations. Additional topics may include stability, nonlinear systems, bifurcations, or numerical methods. Not open to students who have had Mathematics 216 or Mathematics 353. Prerequisite: Mathematics 202, 212 or 222; corequisite: Mathematics 221. Instructor: Staff. One course. C-L: Modeling Biological Systems

361. Mathematical Numerical Analysis. QS Similar to Mathematics 361S but not taught in seminar format. Instructor: Staff. One course.

361S. Mathematical Numerical Analysis. QS, R Development of numerical techniques for accurate, efficient solution of problems in science, engineering, and mathematics through the use of computers. Linear systems, nonlinear equations, optimization, numerical integration, differential equations, simulation of dynamical systems, error analysis. Research project and paper required. Not open to students who have had Computer Science 220 or 520. Prerequisites: Mathematics 212 and 221 and basic knowledge of a programming language (at the level of Computer Science 101), or consent of instructor. Instructor: Staff. One course. C-L: Modeling Biological Systems

371. Combinatorics. QS Permutations and combinations, generating functions, recurrence relations; topics in enumeration theory, including the Principle of Inclusion-Exclusion and Polya Theory; topics in graph theory, including trees, circuits, and matrix representations; applications. Prerequisite: Mathematics 122, 112L, 122L or consent of instructor. Instructor: Staff. One course. C-L: Modeling Biological Systems

375. Introduction to Linear Programming and Game Theory. QS Fundamental properties of linear programs; linear inequalities and convex sets; primal simplex method, duality; integer programming; two-person and matrix games. Prerequisite: Mathematics 221 or equivalence. Instructor: Staff. One course.

388. Logic and Its Applications. QS Topics in proof theory, model theory, and recursion theory; applications to computer science, formal linguistics, mathematics, and philosophy. Usually taught jointly by faculty members from the departments of computer science, mathematics, and philosophy. Prerequisite: a course in logic or consent of instructor. Instructor: Staff. One course. C-L: Computer Science 288, Philosophy 350

391. Independent Study. Directed reading in a field of special interest under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

392. Independent Study. Directed reading in a field of special interest under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Prerequisite: Mathematics 391. Instructor: Staff. One course.
393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

394. Research Independent Study. R Individual research in mathematics or the applications of mathematics under the supervision of a faculty member. The goal must be a substantive paper containing significant analysis and interpretation of a previously approved topic. Prerequisite: Mathematics 393. Consent of instructor and director of undergraduate studies required. One course.

401. Introduction to Abstract Algebra. QS Groups, rings, and fields. Students intending to take a year of abstract algebra should take Mathematics 501 and 502. Not open to students who have had Mathematics 501. Prerequisite: Mathematics 221. Instructor: Staff. One course.

411. Topology. QS Elementary topology, surfaces, covering spaces, Euler characteristic, fundamental group, homology theory, exact sequences. Prerequisite: Mathematics 221. Instructor: Staff. One course.

412. Topology with Applications. QS Introduction to topology from a computational view-point, with a focus on applications. Themes include: basic notions of point-set topology, persistent homology, finding multi-scale topological structure in point cloud data. Algorithmic considerations emphasized. Prerequisite: Mathematics 221 or equivalent. Instructor: Staff. One course. C-L: Computer Science 434

421. Differential Geometry. QS Geometry of curves and surfaces, the Serret-Frenet frame of a space curve, Gauss curvature, Cadazzi-Mainardi equations, the Gauss-Bonnet formula. Prerequisite: Mathematics 221. Instructor: Staff. One course.

431. Advanced Calculus I. QS, W Algebraic and topological structure of the real number system; rigorous development of one-variable calculus including continuous, differentiable, and Riemann integrable functions and the Fundamental Theorem of Calculus; uniform convergence of a sequence of functions; contributions of Newton, Leibniz, Cauchy, Riemann, and Weierstrass. Not open to students who have had Mathematics 531. Prerequisite: Mathematics 202, 212 or 222. Instructor: Staff. One course.

451S. Nonlinear Ordinary Differential Equations. QS, R Theory and applications of systems of nonlinear ordinary differential equations. Topics may include qualitative behavior, numerical experiments, oscillations, bifurcations, deterministic chaos, fractal dimension of attracting sets, delay differential equations, and applications to the biological and physical sciences. Research project and paper required. Prerequisite: Mathematics 216 or 356 or consent of instructor. Instructor: Staff. One course.

453. Introduction to Partial Differential Equations. QS Heat, wave, and potential equations: scientific context, derivation, techniques of solution, and qualitative properties. Topics to include Fourier series and transforms, eigenvalue problems, maximum principles, Green's functions, and characteristics. Intended primarily for mathematics majors and those with similar backgrounds. Prerequisite: Mathematics 353 or 356 or consent of instructor. Instructor: Staff. One course. C-L: Modeling Biological Systems


472. Topics in Mathematics from a Historical Perspective. QS Content of course determined by instructor. Prerequisite: Mathematics 431 or 531 or consent of instructor. Instructor: Staff. One course.

476S. Seminar in Mathematical Modeling. QS, R, W Introduction to techniques used in the construction, analysis, and evaluation of mathematical models. Individual modeling projects in biology, chemistry, economics, engineering, medicine, or physics. Students must write at least one substantial paper on their project. Prerequisite: Mathematics 353 or 356 or consent of instructor. Instructor: Staff. One course. C-L: Modeling Biological Systems

487. Introduction to Mathematical Logic. QS Propositional calculus; predicate calculus. Gödel completeness theorem, applications of number theory, incompleteness theorem, additional topics in proof theory or computability; contributions of Aristotle, Boole, Frege, Hilbert, and Gödel. Prerequisite: Mathematics 212 and 221 or Philosophy 250. Instructor: Staff. One course.

490. Topics in Mathematics. QS Topics vary. Instructor: Staff. One course.

490S. Seminar in Mathematics. QS, R Intended primarily for juniors and seniors majoring in mathematics. Required research project culminating in written report. Prerequisite: Mathematics 212 and 221. Instructor: Staff. One course.

491. Independent Study. Same as Mathematics 391, but for seniors. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

492. Independent Study. Directed reading in a field of mathematics or its applications under the supervision of a faculty member resulting in a substantive paper containing significant analysis and interpretation of a previously approved topic. For seniors. Consent of instructor and director of undergraduate studies required. Prerequisite: Mathematics 491. Instructor: Staff. One course.

493. Research Independent Study. R Same as Mathematics 393, but for seniors. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

494. Research Independent Study. R Individual research in mathematics or the applications of mathematics under the supervision of a faculty member. The goal must be a substantive paper containing significant analysis and interpretation of a previously approved topic. For seniors. Prerequisite: Mathematics 493. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

498S. Honors Seminar. QS, R Topics vary. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

501. Introduction to Algebraic Structures I. QS Groups: symmetry, normal subgroups, quotient groups, group actions. Rings: homomorphisms, ideals, principal ideal domains, the Euclidean algorithm, unique factorization. Not open to students who have had Mathematics 401. Prerequisite: Mathematics 221 or equivalent. Instructor: Staff. One course.

502. Introduction to Algebraic Structures II. QS Fields and field extensions, modules over rings, further topics in groups, rings, fields, and their applications. Prerequisite: Mathematics 221 or equivalent. Instructor: Staff. One course.

527. General Relativity. NS One course. C-L: see Physics 622

531. Basic Analysis I. QS, W Topology of R^n, continuous functions, uniform convergence, compactness, infinite series, theory of differentiation, and integration. Not open to students who have had Mathematics 431. Prerequisite: Mathematics 221. Instructor: Staff. One course.

532. Basic Analysis II. QS Differential and integral calculus in R^n. Inverse and implicit function theorems. Further topics in multivariable analysis. Prerequisite: Mathematics 221; Mathematics 531, or 431 and consent of instructor. Instructor: Staff. One course.


theoerm. Additional topics have included one dimensional boundary behavior, stochastic averaging, stochastic numerical methods. Prerequisites: Undergraduate background in real analysis (Mathematics 431) and probability (Mathematics 230 or 340). Instructor: Staff. One course.


555. Ordinary Differential Equations. QS Existence and uniqueness theorems for nonlinear systems, well-posedness, two-point boundary value problems, phase plane diagrams, stability, dynamical systems, and strange attractors. Prerequisite: Mathematics 221, 216 or 356, and 531 or 431. Instructor: Staff. One course.


565. Numerical Analysis. QS, R One course. C-L: see Computer Science 520; also C-L: Statistical Science 612, Modeling Biological Systems

573S. Modeling of Biological Systems. QS, R Research seminar on mathematical methods for modeling biological systems. Exact content based on research interests of students. Review methods of differential equations and probability. Discuss use of mathematical techniques in development of models in biology. Student presentations and class discussions on individual research projects. Presentation of a substantial individual modeling project to be agreed upon during the first weeks of the course. May serve as capstone course for MBS certificate. Not open to students who have had Modeling Biological Systems 495S. Prerequisites: Mathematics 216 or 356 or consent of instructor. One course. C-L: Modeling Biological Systems 573S, Computational Biology and Bioinformatics 573S

575. Mathematical Fluid Dynamics. QS Properties and solutions of the Euler and Navier-Stokes equations, including particle trajectories, vorticity, conserved quantities, shear, deformation and rotation in two and three dimensions, the Biot-Savart law, and singular integrals. Additional topics determined by the instructor. Prerequisite: Mathematics 453 or 551 or an equivalent course. Instructor: Staff. One course. C-L: Modeling Biological Systems

577. Mathematical Modeling. QS Formulation and analysis of mathematical models describing problems from science and engineering including areas like biological systems, chemical reactions, and mechanical systems. Mathematical techniques such as nondimensionalization, perturbation analysis, and special solutions will be introduced to simplify the models and yield insight into the underlying problems. Instructor: Staff. One course.
581. Mathematical Finance. QS An introduction to the basic concepts of mathematical finance. Topics include modeling security price behavior, Brownian and geometric Brownian motion, mean variance analysis and the efficient frontier, expected utility maximization, Ito's formula and stochastic differential equations, the Black-Scholes equation and option pricing formula. Prerequisites: Mathematics 212 (or 222), 221, and 230 (or 340), or consent of instructor. Instructor: Staff. One course. C-L: Economics 673

590-01. Special Readings. QS Instructor: Staff. One course.

601. Groups, Rings, and Fields. QS Groups including nilpotent and solvable groups, p-groups and Sylow theorems; rings and modules including classification of modules over a PID and applications to linear algebra; fields including extensions and Galois theory. Prerequisite: Mathematics 502 or equivalent. Instructor: Staff. One course.

602. An Introduction to Commutative Algebra and Algebraic Geometry. QS Affine algebraic varieties, Groebner bases, localization, chain conditions, dimension theory, singularities, completions. Prerequisite: Mathematics 601 or equivalent. Instructor: Staff. One course.

603. Representation Theory. QS Representation theory of finite groups, Lie algebras and Lie groups, roots, weights, Dynkin diagrams, classification of semisimple Lie algebras and their representations, exceptional groups, examples and applications to geometry and mathematical physics. Prerequisite: Mathematics 501 or equivalent. Instructor: Staff. One course.

605. Number Theory. QS Binary quadratic forms; orders, integral closure; Dedekind domains; fractional ideals; spectra of rings; Minkowski theory; fundamental finiteness theorems; valuations; ramification; zeta functions; density of primes in arithmetic progressions. Prerequisites: Mathematics 502 or 601 or consent of instructor. Instructor: Staff. One course. C-L: Physics 603

607. Computation in Algebra and Geometry. QS Application of computing to problems in areas of algebra and geometry, such as linear algebra, algebraic geometry, differential geometry, representation theory, and number theory, use of general purpose symbolic computation packages such as Maple or Mathematica; use of special purpose packages such as Macaulay, PARI-GP, and LiE; programming in C/C++. Previous experience with programming or the various mathematical topics not required. Corequisite: Mathematics 601 or consent of instructor. Instructor: Staff. One course.

611. Algebraic Topology I. QS Fundamental group and covering spaces, singular and cellular homology, Eilenberg-Steenrod axioms of homology, Euler characteristic, classification of surfaces, singular and cellular cohomology. Prerequisite: Mathematics 411 and 501 or consent of instructor. Instructor: Staff. One course.

612. Algebraic Topology II. QS Universal coefficient theorems, Künneth theorem, cup and cap products, Poincaré duality, plus topics selected from: higher homotopy groups, obstruction theory, Hurewicz and Whitehead theorems, and characteristic classes. Prerequisite: Mathematics 611 or consent of instructor. Instructor: Staff. One course.

619. Computational Topology. QS One course. C-L: see Computer Science 636

621. Differential Geometry. QS Differentiable manifolds, fiber bundles, connections, curvature, characteristic classes, Riemannian geometry including submanifolds and variations of length integral, complex manifolds, homogeneous spaces. Prerequisite: Mathematics 532 or equivalent. Instructor: Staff. One course.

625. Riemann Surfaces. QS Compact Riemann Surfaces, maps to projective space, Riemann-Roch Theorem, Serre duality, Hurwitz formula, Hodge theory in dimension one, Jacobians, the Abel-Jacobi map, sheaves, Cech cohomology. Prerequisite: Mathematics 633 and Mathematics 611 or consent of instructor. Instructor: Staff. One course.

627. Algebraic Geometry. QS Projective varieties, morphisms, rational maps, sheaves, divisors, sheaf cohomology, resolution of singularities. Prerequisite: Mathematics 602 and 625; or consent of instructor advised. Instructor: Staff. One course.
631. **Real Analysis. QS** Measures; Lebesgue integral; Lk spaces; Daniell integral, differentiation theory, product measures. Prerequisite: Mathematics 532 or equivalent. Instructor: Staff. One course.

633. **Complex Analysis. QS** Complex calculus, conformal mapping, Riemann mapping theorem, Riemann surfaces. Prerequisite: Mathematics 532 or equivalent. Instructor: Staff. One course.

635. **Functional Analysis. QS** Metric spaces, fixed point theorems, Baire category theorem, Banach spaces, fundamental theorems of functional analysis, Fourier transform. Prerequisite: Mathematics 631 or equivalent. Instructor: Staff. One course.

641. **Probability. QS** Theoretic probability. Triangular arrays, weak laws of large numbers, variants of the central limit theorem, rates of convergence of limit theorems, local limit theorems, stable laws, infinitely divisible distributions, general state space Markov chains, ergodic theorems, large deviations, martingales, Brownian motion and Donsker's theorem. Prerequisites: Mathematics 631 or Statistical Science 711 or equivalent. Instructor: Staff. One course.

651. **Hyperbolic Partial Differential Equations. QS** Linear wave motion, dispersion, stationary phase, foundations of continuum mechanics, characteristics, linear hyperbolic systems, and nonlinear conservation laws. Prerequisite: Mathematics 557 or equivalent. Instructor: Staff. One course.


690-00. **Topics in Algebraic Geometry. QS** Schemes, intersection theory, deformation theory, moduli, classification of varieties, variation of Hodge structure, Calabi-Yau manifolds, or arithmetic algebraic geometry. Prerequisite: Mathematics 627 or consent of instructor. Instructor: Staff. One course.

690-10. **Topics in Topology. QS** Algebraic, geometric, or differential topology. Consent of instructor required. Instructor: Staff. One course.

690-20. **Topics in Differential Geometry. QS** Lie groups and related topics, Hodge theory, index theory, minimal surfaces, Yang-Mills fields, exterior differential systems, harmonic maps, symplectic geometry. Prerequisite: Mathematics 621 or consent of instructor. Instructor: Staff. One course.

690-30. **Topics in Complex Analysis. QS** Geometric function theory, function algebras, several complex variables, uniformization, or analytic number theory. Prerequisite: Mathematics 633 or equivalent. Instructor: Staff. One course.

690-40. **Topics in Probability Theory. QS** Probability tools and theory, geared towards topics of current research interest. Possible additional prerequisites based on course content in a particular semester.
Prerequisites: Mathematics 230 or 340 or equivalent, and consent of instructor. Instructor: Staff. One course.

C-L: Statistical Science 690-40


THE MAJOR

The Department of Mathematics offers both the A.B. degree and the B.S. degree. Students who plan to attend graduate school in mathematics or the sciences should consider working toward the B.S. degree, which requires at least eight courses in mathematics numbered Mathematics 230 or above. The A.B. degree requires at least seven courses in mathematics numbered Mathematics 230 or above. At least half of the major/minor courses numbered above 212 should be taken at Duke. In particular, Mathematics 401 (or 501) and 431 (or 531) should be taken at Duke. The specific requirements for each degree are listed below.

The director of undergraduate studies can be consulted for additional information and advice on course selection. The Handbook for Mathematics Majors and Minors, published by the department, can be used as a guide in developing a coherent program of study consistent with professional goals.

For the A.B. Degree

Prerequisites. Mathematics 21 or 111L or 121 or an equivalent course; Mathematics 22 or 112L or 122 or 122L or an equivalent course; Mathematics 212 or 222 and Mathematics 221 or equivalent courses. (Many upper-level mathematics courses assume programming experience at the level of Computer Science 94. Students without computer experience are encouraged to take Computer Science 101.)

Major Requirements. Seven courses in mathematics numbered 230 or above including Mathematics 401 or 501 and Mathematics 431 or 531.

For the B.S. Degree

Prerequisites. Mathematics 21 or 111L or 121 or an equivalent course; Mathematics 22 or 112L or 122 or 122L or an equivalent course; Mathematics 212 or 222 and Mathematics 221 or equivalent courses. (Many upper-level mathematics courses assume programming experience at the level of Computer Science 94. Students without computer experience are encouraged to take Computer Science 101.)

Major Requirements. Eight courses in mathematics numbered 230 or above including: Mathematics 401 or 501; Mathematics 431 or 531; and one of Mathematics 333, 342, 411, 421, 502, 532, 541, 581. There is also a Physics requirement. It may be met by receiving Advanced Placement credit for Physics 25 and 26; or by completing Physics 141L and 142L, Physics 151L and 152L, or Physics 161L and 162L; or by completing a program of Physics courses approved by the director of undergraduate studies.

Departmental Graduation with Distinction

The department offers a program for Graduation with Distinction in mathematics. See the Handbook for Mathematics Majors and Minors and also the section on honors in this bulletin.

THE MINOR

Prerequisites. Mathematics 212 or 222 or the equivalent.

Requirements. Five courses in mathematics numbered above 212, other than 222, to include at least one course (or its equivalent) from the following: Mathematics 230, 333, 361S, 401, 411, 421, 431, 451S, 487, or any Mathematics course at the 500 or 600 level.

Mechanical Engineering and Materials Science

For courses in mechanical engineering and materials science, see “Pratt School of Engineering” on page 648.
Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates

Qualified students in arts and sciences may select courses from the following offered by the graduate departments associated with the School of Medicine.

A major is not offered to undergraduates in any of the departments listed below.

For permission to register for these courses and for further information, see Professors Spicer (biochemistry), Endow (cell biology), Marchuk (University Program In Genetics), Dawson (immunology), Valdivia (molecular genetics and microbiology), Beese (structural biology and biophysics), W. C. Hall (neurobiology), Abraham (pathology), and Schwartz-Bloom (pharmacology and cancer biology).

BIOCHEMISTRY (BIOCHEM)


593. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Designed for students interested in either a laboratory or a library project in biochemistry. One course for undergraduate students. One to twelve units for graduate students. Instructor: Staff. Variable credit.

622. Structure of Biological Macromolecules. R Computer graphics intensive study of some of the biological macromolecules whose three-dimensional structures have been determined at high resolution. Emphasis on the patterns and determinants of protein structure. Two-hour discussion session each week along with computer-based lessons and projects. Instructors: D. Richardson and J. Richardson. One course. C-L: Structural Biology and Biophysics 622, Computational Biology and Bioinformatics 622

658. Structural Biochemistry I. Principles of modern structural biology. Protein-nucleic acid recognition, enzymatic reactions, viruses, immunoglobulins, signal transduction, and structure-based drug design described in terms of the atomic properties of biological macromolecules. Discussion of methods of structure determination with particular emphasis on macromolecular X-ray crystallography NMR methods, homology modeling, and bioinformatics. Students use molecular graphics tutorials and Internet databases to view and analyze structures. Prerequisites: organic chemistry and introductory biochemistry. Instructors: Beese and staff. Half course. C-L: Cell and Molecular Biology 658, Cell Biology 658, University Program in Genetics 658, Immunology 658, Structural Biology and Biophysics 658, Computational Biology and Bioinformatics 658

659. Structural Biochemistry II. Continuation of Biochemistry 658. Structure/function analysis of proteins as enzymes, multiple ligand binding, protein folding and stability, allostery, protein-protein interactions. Prerequisites: Biochemistry 658, organic chemistry, physical chemistry, and introductory biochemistry. Instructors: Hellinga and staff. Half course. C-L: Cell Biology 659, Immunology 659, Computational Biology and Bioinformatics 659, Structural Biology and Biophysics 659, University Program in Genetics 659


681. Physical Biochemistry. A structure-based introduction to the role of thermodynamic driving forces in biology. An overview of experimental sources of structural and dynamic data, and a review of the fundamental concepts of thermodynamics. Both concepts are combined to achieve a structural and quantitative mechanistic understanding of allosteric regulation, and of coupled ligand binding and conformational change. Statistical thermodynamics is used to develop ensemble models of protein and nucleic acid dynamics. This treatment leads into specific examples and general principles of how to interpret structural and dynamic information toward the purposes of other research. Instructor consent required. Instructor: Oas. One course. C-L: Structural Biology and Biophysics 681

695. Macromolecular Structure Determination by NMR Spectroscopy and X-ray Crystallography. Theoretical and experimental principles of nuclear magnetic resonance (NMR) spectroscopy and macromolecular x-ray crystallography. Topics of NMR cover theory, data collection and interpretation of macromolecular NMR experiments, including 1D, 2D, and multidimensional NMR data collection and interpretation, chemical exchange, protein dynamics, residual dipolar couplings, and solution structure determination. Emphasis on crystal symmetry, space group determination, diffraction theory, and a practical understanding of macromolecular crystallization, x-ray intensity data collection, macromolecular structure determination, refinement, and analysis. Prerequisites: Undergraduate physical chemistry, undergraduate biochemistry, and one year of calculus. Instructor consent required. Instructor: Schumacher. One course.

CELL BIOLOGY (CELLBIO)

493. Research Independent Study. Research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor required. Instructor: Staff. One course. C-L: Marine Sciences

503. Introduction to Physiology. Modern organ physiology; cellular physiology, organ system physiology including cardiovascular, respiratory, renal gastrointestinal, endocrine, reproductive, muscle and nervous. Mini course. Prerequisite: elementary biology. Instructors: Jakoi and Vigna. One course.

658. Structural Biochemistry I. Half course. C-L: see Biochemistry 658; also C-L: Cell Biology 658, University Program in Genetics 658, Immunology 658, Structural Biology and Biophysics 658, Computational Biology and Bioinformatics 658

659. Structural Biochemistry II. Half course. C-L: see Biochemistry 659; also C-L: Immunology 659, Computational Biology and Bioinformatics 659, Structural Biology and Biophysics 659, University Program in Genetics 659

668. Biochemical Genetics II: From RNA to Protein. Half course. C-L: see Biochemistry 668; also C-L: Immunology 668, University Program in Genetics 668

CELL AND MOLECULAR BIOLOGY (CMB)

658. Structural Biochemistry I. Half course. C-L: see Biochemistry 658; also C-L: Cell Biology 658, University Program in Genetics 658, Immunology 658, Structural Biology and Biophysics 658, Computational Biology and Bioinformatics 658

659. Structural Biochemistry II. Half course. C-L: see Biochemistry 659; also C-L: Immunology 659, Computational Biology and Bioinformatics 659, Structural Biology and Biophysics 659, University Program in Genetics 659

668. Biochemical Genetics II: From RNA to Protein. Half course. C-L: see Biochemistry 668; also C-L: Immunology 668, University Program in Genetics 668

UNIVERSITY PROGRAM IN GENETICS AND GENOMICS (UPGEN)

533. Genetic Epidemiology. This course will cover traditional genetic epidemiologic methods such as study design, linkage analysis and genetic association. Instructor: Ashley-Koch. One course.

658. Structural Biochemistry I. Half course. C-L: see Biochemistry 658; also C-L: Cell and Molecular Biology 658, Cell Biology 658, Immunology 658, Structural Biology and Biophysics 658, Computational Biology and Bioinformatics 658
659. Structural Biochemistry II. Half course. C-L: see Biochemistry 659; also C-L: Cell Biology 659, Immunology 659, Computational Biology and Bioinformatics 659, Structural Biology and Biophysics 659

668. Biochemical Genetics II: From RNA to Protein. Half course. C-L: see Biochemistry 668; also C-L: Cell Biology 668, Immunology 668

IMMUNOLOGY (IMMUNOL)

493. Research Independent Study. R Individual research and reading of the primary literature in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor required. Instructor: Staff. One course.

494. Research Independent Study. R Individual research and reading of the primary literature in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor required. Instructor: Staff. One course.

523S. Computational Immunology. One course. C-L: see Computational Biology and Bioinformatics 523S

544. Principles of Immunology. NS, R An introduction to the molecular and cellular basis of the immune response. Topics include anatomy of the lymphoid system, lymphocyte biology, antigen-antibody interactions, humoral and cellular effector mechanisms, and control of immune responses. Prerequisites: Biology 220 or Biology 201L. Instructors: Zhang and Immunology Faculty. One course. C-L: Biology 515

658. Structural Biochemistry I. Half course. C-L: see Biochemistry 658; also C-L: Cell and Molecular Biology 658, Cell Biology 658, University Program in Genetics 658, Structural Biology and Biophysics 658, Computational Biology and Bioinformatics 658

659. Structural Biochemistry II. Half course. C-L: see Biochemistry 659; also C-L: Cell Biology 659, Computational Biology and Bioinformatics 659, Structural Biology and Biophysics 659, University Program in Genetics 659

668. Biochemical Genetics II: From RNA to Protein. Half course. C-L: see Biochemistry 668; also C-L: Cell Biology 668, University Program in Genetics 668

MOLECULAR GENETICS AND MICROBIOLOGY (MGM)

521. Computational Gene Expression Analysis. QS C-L: see Computational Biology and Bioinformatics 521; also C-L: Statistical Science 505

522. Critical Readings in Genetics and Genomics. One course. C-L: University Program in Genetics 522

552. Virology. Molecular biology of mammalian viruses, with emphasis on mechanisms of replication, virus-host interactions, viral pathogenicity, and the relationship of virus infection to neoplasia. Instructor: Cullen and staff. One course.

582. Microbial Pathogenesis. Modern molecular genetic approaches to understanding the pathogenic bacteria and fungi. Underlying mechanisms of pathogenesis and host-parasite relationships that contribute to the infectious disease process. Instructor: McCusker, Abraham, and staff. One course.

593. Research Independent Study. R Independent research in Molecular Genetics and Microbiology. Instructor: Staff. One course.

NEUROBIOLOGY (NEUROBIO)

193FS. Neurobiology of Mind. NS Introduction to the fundamental principles of brain organization and mechanisms. Open only to students in the Focus Program. Instructor: Hall. One course. C-L: Psychology 193FS, Neuroscience 193FS

195FS. Neuroeconomics: The Neurobiology of Decision Making. NS, SS Emerging ideas in neuroeconomics research. Topics include basic structural and functional organization of the brain, strengths and limitations of techniques in neuroscience, introduction of concepts from economics into neuroscience, and
impact of neuroscience on economics models. Open only to students in the Focus Program. Instructor: Huettel. One course. C-L: Neuroscience 195FS


393. Research Independent Study. R Individual research and reading of the primary literature in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor required. Instructor: Staff. One course.


557. Vision. Understanding the machinery of vision and its perceptual consequences. How we see brightness, color, form, motion, depth; the integration of visual and auditory information to generate unified multimodal representations; using vision to probe cognitive aspects of brain function; exploring visual aesthetics. The course is designed for advanced undergraduates and beginning graduate students. Instructor: Fitzpatrick and Purves. One course.

559. The Biological Basis of Music. Examine how and why we hear what we do, from intra-species communication to music. Consider the biological basis of music, in particular the relationship between music and speech. Comparison between the operating principles of the auditory system with what is presently known about vision. Limited inquiry into the neurobiology of aesthetics. Instructor: Purves. One course. C-L: Philosophy 559, Psychology 580

PATHOLOGY (PATHOL)


202T. Tutorial in Human Disease. Reading course focusing on a series of books highlighting different areas of medicine. Substantial analytical paper required to be submitted at the end of semester. Consent of instructor required. Instructor: Friedman. One course.

293. Research Independent Study. R Individual research and reading of the primary literature in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive written report or oral presentation containing significant analysis and interpretation of a previously approved topic. Consent of instructor required. Instructor: Staff. One course.

PHARMACOLOGY AND CANCER BIOLOGY (PHARM)

190FS. Chemistry of the Brain: Sex, Eating, and Addiction. NS, R The neurochemistry of the brain. The basic mechanisms, focus on how the brain causes three kinds of behavior: sex, eating, and addiction. Topics such as, how drugs affect the brain, why people get fat, and why anorectic drugs not work over the long run. The neurobiological basis of sexual behavior and sexual differentiation of the brain. Different models of addiction: i.e. a neurochemical adaptation in the brain, a disease, or a moral weakness. Open only to students in the Focus Program. Instructor: Kuhn. One course.

293. Research Independent Study in Science Education. R Individual research in a field of science education (with reference to pharmacology) at the precollege level, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of study
results. Open to (juniors and seniors) with consent of supervising instructor. Prerequisite: Biology 25L; Chemistry 21L or 23L. Instructor: Schwartz-Bloom. One course.

294. Research Independent Study in Science Education. R Continuation of Pharmacology 293. Open to juniors and seniors with consent of supervising instructor. Prerequisites: Biology 25L; Chemistry 21L or 23L; Pharmacology 293. Consent of instructor required. Instructor: Schwartz-Bloom. One course.

350. Pharmacology: Drug Actions and Reactions. Mechanisms of drug action, concepts of drug toxicity, resistance, tolerance, and drug interactions. Examples of how drugs affect the autonomic and central nervous systems, the cardiovascular and endocrine systems, and how drugs treat infection and cancer. This course is designed for both science and nonscience majors, but preference will be given to junior biology majors concentrating in pharmacology. Prerequisite: introductory biology (Biology 25L) and chemistry (Chemistry 11L, 12L). Instructor: Schwartz-Bloom. One course. C-L: Neuroscience 350

360. Drugs, Brain, and Behavior (B). NS Mechanisms by which psychoactive drugs act. Changes that occur with chronic use of drugs; drug abuse and dependence. Social and legal implications of psychoactive drugs. Designed for both science and nonscience majors. Emphasis on the reasoning, research designs, and methods for understanding drug effects. Prerequisite: introductory biology (Biology 25L) and chemistry (Chemistry 11L, 12L). Instructor: Kuhn. One course. C-L: Psychology 274, Neuroscience 360

370S. Pharmacogenomics and Personalized Medicine. NS Introduction to human genetic and genomics and how the topics relate to modern medicine and treatment. Special emphasis placed on principles of human genomics (including human genome organization, complex disease and large scale genomic analysis) and how they relate to the field of translational genomics (bridging human genetics to drug design). Discussion of ethical and societal issues concerning personalized medicine as well as future implications to modern health care. Current journal articles highlighting new genomic treatments will be presented and discussed. Prerequisite: Biology 201L. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a pharmacology-related area under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of the study results. Open to first-year students and sophomores with consent of supervising instructor. Instructor: Staff. One course.

394. Research Independent Study. R Individual research in a pharmacology-related area under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of the study results. Open to first-year students and sophomores with consent of supervising instructor. Instructor: Staff. One course.

471S. Reward and Addiction (B). NS One course. C-L: see Psychology 471S; also C-L: Neuroscience 471S

493. Research Independent Study. R Individual research in a pharmacology-related area under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of the study results. Open to juniors and seniors with consent of supervising instructor. Instructor: Staff. Variable credit.

494. Research Independent Study. R Individual research in a pharmacology-related area under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of the study results. Open to juniors and seniors with consent of supervising instructor. Instructor: Staff. One course.

495. Research Independent Study. R Individual research in a pharmacology-related area under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of the study results. Open to juniors and seniors who have already taken Pharmacology 493 and 494, with consent of supervising instructor. Instructor: Staff. One course.

533. Essentials of Pharmacology and Toxicology. Drug absorption, distribution, excretion, and metabolism. Structure and activity relationships; drug and hormone receptors and target cell responses. Consent of
instructor required. Prerequisite: introductory biology; Chemistry 201DL; Mathematics 21 and 122. Instructor: Slotkin and staff. One course. C-L: Neuroscience 533

534. Interdisciplinary Approach to Pharmacology. Several model systems (cancer, immunological disorders, and infectious diseases) will be used to explore the molecular, biochemical, and physiological basis of drug action. Consent of instructor required. Instructors: Rathmell, Wang, or Whorton. One course.

535. Interdisciplinary Approaches to Pharmacology Part II. NS Several model systems (CNS, cardiovascular, and infectious diseases) will be used to explore the molecular biochemical, and physiological basis of drug action. Consent of instructor required. Instructors: Rathmell, Wang, or Whorton. One course.

554. Mammalian Toxicology. Principles of toxicology as related to humans. Emphasis on the molecular basis for toxicity of chemical and physical agents. Subjects include metabolism and toxicokinetics, toxicologic evaluation, toxic agents, target organs, toxic effects, environmental toxicity, management of poisoning, epidemiology, risk assessment, and regulatory toxicology. Prerequisite: introductory biology, and Chemistry 201DL, or consent of instructor. Instructor: Abou-Donia and staff. One course.

673S. Computer Models and the Treatment of Psychiatric Disorders. NS, QS One course. C-L: see Psychology 673S; also C-L: Computer Science 673S, Information Science and Information Studies 673S

693. Research Independent Study in Science Education. R Individual research in a field of science education (with reference to pharmacology) at the precollege/college level, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of study results. Open to all qualified seniors and graduate students with consent of supervising instructor. Instructor: Schwartz-Bloom. One course.

694. Research Independent Study in Science Education. R Individual research in a field of science education (with reference to pharmacology) at the precollege/college level, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of study results. Open to all qualified seniors and graduate students with consent of supervising instructor. Instructor: Schwartz-Bloom. One course.

STRUCTURAL BIOLOGY AND BIOPHYSICS (SBB)
622. Structure of Biological Macromolecules. R One course. C-L: see Biochemistry 622; also C-L: Computational Biology and Bioinformatics 622

659. Structural Biochemistry II. Half course. C-L: see Biochemistry 659; also C-L: Cell Biology 659, Immunology 659, Computational Biology and Bioinformatics 659, University Program in Genetics 659

Medieval and Renaissance Studies (MEDREN)
Professor Finucci, Director; Professor Finucci, Director of Undergraduate Studies; Professors Aers, Beckwith, Brothers, Bruzelius, Clark, Finucci, Gaspar, Grant, Greer, Hillerbrand, Longino, Martin, Mignolo, Porter, Quilligan, Rasmussen, Robisheaux, Shatzmiller, Silverblatt, Solterer, Tennenhouse, Wharton, and Van Miegroet; Associate Professors Janiak, Keefe, McCarthy, Neuschel, Sigal, Somerset, and Woods; Assistant Professors Eisner, Galletti, Hassan, Malegam, Pak, and Stern; Professors Emeriti Bland, Clay, DeNeef, García-Gómez, Mauskopf, Newton, Randall, Rigby, Silbiger, Steinmetz, Williams, and Witt; Visiting Assistant Professor Dubois; Adjunct Assistant Professor Keul

A major or a minor is available in this program.

The program in Medieval and Renaissance Studies is designed to provide the student with a well-rounded understanding of the historical, cultural, and social forces that shaped the medieval and Renaissance periods. The program is divided into four areas of study: fine arts (art and music); history; language and literature (English, French, German, Greek, Italian, Latin, and Spanish); and philosophy and religion. See the section on the major below.

CORE COURSES
898. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.
151. Medieval Cultures. ALP, CCI, CZ Interdisciplinary introduction to medieval culture that includes sources and methods from history, literature, and art history. Emphasizes interpretation of written texts, oral traditions, visual culture, and artifacts. Instructor: Staff. One course. C-L: Art History 121, Classical Studies 121, History 241

152. Renaissance Cultures. ALP, CCI, CZ A study of historical, literary, philosophical, and art historical materials introducing Renaissance culture and the methods developed for its study. Instructor: Staff. One course. C-L: Art History 152, History 116, Italian 381

291. Independent Study. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic product. Instructor: Staff. One course.

293. Research Independent Study. R Individual research and reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Usually undertaken by a student working on an Honors project in consultation with the student's project advisor. Consent of instructor required. Instructor: Staff. One course.

344. Italian Women Writers. ALP, EI One course. C-L: see Italian 382; also C-L: Women's Studies 282

OTHER COURSES
For full descriptions of most of these courses, consult the cross-listings under the specified department in this bulletin.

190A. Duke-Administered Study Abroad: Special Topics in Medieval and Renaissance Studies. Topics differ by section. Instructor: Staff. One course.

190FS. Special Topics in Focus. Special topics in Medieval and Renaissance Studies open only to students in the Focus Program. Instructor: Staff. One course.

201S. Music History I: To 1650. ALP, CCI, CZ One course. C-L: see Music 255S

205S. The Vikings and Their Literature. ALP, CCI, EI One course. C-L: see German 261S

210. Medieval Architecture. ALP, CCI, CZ, R One course. C-L: see Art History 226

215. Gothic Cathedrals. ALP, CCI, CZ, R One course. C-L: see Art History 225

220. The Art of Medieval Southern Italy. ALP, CCI, CZ, R One course. C-L: see Visual and Media Studies 335

224S. Romance of Arthur. ALP, CZ One course. C-L: see German 260S

225. Art in Renaissance Italy. ALP, CCI, CZ One course. C-L: see Art History 255; also C-L: Italian 386

227. Renaissance Architecture in Italy: Brunelleschi to Michelangelo. ALP, CZ One course. C-L: see Art History 258; also C-L: Italian 258

227FS. Renaissance Architecture in Italy: Brunelleschi to Michelangelo. ALP, CZ One course. C-L: see Art History 258FS

229A. Renaissance and Baroque Art History. ALP, CCI, CZ One course. C-L: see Art History 255A

233. Michelangelo in Context. ALP, CCI, CZ One course. C-L: see Art History 259; also C-L: Italian 261

237. French Art and Visual Culture in the Early Modern Period. ALP, CCI, CZ, R One course. C-L: see Visual and Media Studies 293

242A. History of Netherlandish Art in a European Context. ALP, CCI, CZ One course. C-L: see Visual and Media Studies 262A; also C-L: International Comparative Studies

243A. History of Netherlandish Art in a European Context. ALP, CCI, CZ One course. C-L: see Visual and Media Studies 263A; also C-L: International Comparative Studies

249. Netherlandish Art and Visual Culture in the Seventeenth and Eighteenth Centuries. ALP, CCI, CZ, R One course. C-L: see Art History 337; also C-L: International Comparative Studies
254. The Expansion of Medieval Europe. CCI, CZ One course. C-L: see History 254
256. Medieval Bodies: Sex & Food. CCI, CZ, EI One course. C-L: see History 246; also C-L: Women's Studies 219, Study of Sexualities 210
257. Medieval Christendom, Conflict. CCI, CZ, EI One course. C-L: see History 242; also C-L: Religion 354
259. Europe Before The Crusades. CCI, CZ One course. C-L: see History 245
262. The Crusades to the Holy Land. CCI, CZ, R One course. C-L: see History 249; also C-L: Jewish Studies 249, Islamic Studies
268. Islamic Civilization I. CCI, CZ, EI One course. C-L: see Religion 375; also C-L: Cultural Anthropology 256, History 210, Information Science and Information Studies, Islamic Studies, Ethics Courses Offered Through Other Departments
269. Islamic Civilization II. CCI, CZ, EI One course. C-L: see Religion 376; also C-L: Cultural Anthropology 257, History 211, International Comparative Studies, Islamic Studies, Ethics Courses Offered Through Other Departments
272. British Isles in the Middle Ages. CCI, CZ, EI One course. C-L: see History 247
275. Tudor/Stuart Britain. CZ, R, W One course. C-L: see History 269
277. History of Medieval and Renaissance Italy. ALP, CZ One course. C-L: see History 252
279. The History of the Renaissance in Europe 1250-1550. CZ, W One course. C-L: see History 256; also C-L: International Comparative Studies
281. Reformation Europe. CCI, CZ One course. C-L: see History 257; also C-L: International Comparative Studies
284. The Reformation of the Sixteenth Century. CCI, CZ, EI One course. C-L: see Religion 358; also C-L: History 259, Ethics Courses Offered Through Other Departments
287. Magic, Religion, and Science since 1400. CCI, CZ, EI, STS One course. C-L: see History 260
289. Rise of Modern Science: Early Science through Newton. CZ, STS, W One course. C-L: see History 302
290-1. Topics in Medieval Art and Architecture. ALP, CCI, CZ One course. C-L: see Art History 290-1
290S-1. Special Topics in Medieval English Literature to 1500. ALP One course. C-L: see English 290S-1
290AS-1. Topics in Renaissance British Literature. ALP Two courses. C-L: see English 290AS-1
301. Ancient Myth. ALP, CCI, CZ One course. C-L: see Classical Studies 208
303. Ancient and Medieval Epic. ALP, CCI One course. C-L: see Classical Studies 204
304S. Interpreting Rome. ALP, CCI, CZ, FL One course. C-L: see Latin 372S
308. Introduction to Old English. ALP, CCI, CZ, R One course. C-L: see English 205
310S. Introduction to German Literature I. ALP, CCI, FL One course. C-L: see German 331S
312. Introduction to Italian Literature I. ALP, CCI, FL One course. C-L: see Italian 332
314. Introduction to Spanish Literature I. ALP, CCI, FL One course. C-L: see Spanish 332
317. Medieval English Literature to 1500. ALP, CCI, R One course. C-L: see English 231
318. Middle English 1100-1500. ALP, CCI, W One course. C-L: see English 207
320S. Chaucer I. ALP, CCI, R One course. C-L: see English 332S
321. Chaucer II. ALP, CCI, R One course. C-L: see English 333
326. Sixteenth-Century English Literature. ALP One course. C-L: see English 233
328. Seventeenth-Century English Literature. ALP One course. C-L: see English 238
330. Introduction to Shakespeare. ALP, W One course. C-L: see English 235; also C-L: Theater Studies 222
331. Shakespeare Before 1600. ALP, EI, R One course. C-L: see English 336; also C-L: Theater Studies 336
332. Shakespeare After 1600. ALP, EI, R One course. C-L: see English 337; also C-L: Theater Studies 337
333. Shakespeare: Comedies and Romances. ALP One course. C-L: see English 334; also C-L: Theater Studies 334
337. Milton. ALP, R One course. C-L: see English 338
340. Jewish Mysticism. CZ, EI One course. C-L: see Religion 335; also C-L: Jewish Studies 335, Ethics Courses Offered Through Other Departments
345. The Devil's Pact: Faust and the Faust Tradition. ALP, CCI, EI One course. C-L: see German 370; also C-L: Literature 240
350. Medieval Philosophy. CCI, CZ, EI One course. C-L: see Philosophy 219
354. Medieval Christianity in Film and Fiction. ALP, CCI, CZ, EI One course. C-L: see Religion 261; also C-L: History 244
355. Late Medieval and Renaissance Philosophy. CCI, CZ One course. C-L: see Philosophy 220
390. Topics in Medieval and Renaissance Studies. Topics may focus on fine arts, history, language and literature, or philosophy and religion, frequently engaging interdisciplinary perspectives. Instructor: Staff. One course.
390-1. Topics in Renaissance Art. ALP, CCI, CZ One course. C-L: see Art History 390-1
426S. Capstone Seminar: Sex, Celibacy, and Purity in the Middle Ages. CCI, CZ, EI, R One course. C-L: see History 459S; also C-L: Religion 415S
429S. Capstone Seminar: The Black Death and Medieval Society. CCI, CZ, EI, R One course. C-L: see History 460S
430S. Capstone Seminar: Heresy and Inquisition in the Middle Ages. CCI, CZ, R One course. C-L: see History 462S
432S. Capstone Seminar: Medieval Communities. CCI, CZ, EI, R One course. C-L: see History 463S
450. Dante's Divine Comedy: Hell, Purgatory and Paradise. ALP, CCI, CZ, EI One course. C-L: see Italian 481; also C-L: Religion 262, History 253, Literature 245, International Comparative Studies
452. Courtly Love and Hate. ALP, CCI, FL One course. C-L: see French 418S
454. Sex, Death, and a Little Love: Boccaccio's Decameron. ALP, CCI, CZ, R One course. C-L: see Italian 482
458. Spanish Literature of the Renaissance and the Baroque. ALP, CCI, FL One course. C-L: see Spanish 410; also C-L: Information Science and Information Studies 251
459. Golden Age Literature: Cervantes. ALP, CCI, FL One course. C-L: see Spanish 411
462S. Eros in the Renaissance. ALP, CZ, R, W One course. C-L: see Romance Studies 411S
465. France in the Making: Language, Nation, and Literary Culture in Premodern Europe. CCI, CZ, FL One course. C-L: see French 425; also C-L: International Comparative Studies
470S. Italians Abroad, Foreigners in Italy: Seeing and Being Seen. ALP, CCI, CZ One course. C-L: see Italian 484S; also C-L: International Comparative Studies
475D. Women Writers of the Renaissance: Spain and England. ALP, CCI, CZ One course. C-L: see Spanish 481D; also C-L: English 433
491. Independent Study: Thesis. Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic and/or artistic product that will contribute to developing an honors thesis. Instructor: Staff. One course.

493. Research Independent Study: Thesis. Individual research and reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Undertaken by a student working on an Honors project in consultation with the student’s project advisor. One course.

504A. History of Netherlandish Art and Visual Culture in a European Context. ALP, CCI, CZ, R One course. C-L: see Visual and Media Studies 506A; also C-L: International Comparative Studies

505A. History of Netherlandish Art and Visual Culture in a European Context. ALP, CCI, CZ, R One course. C-L: see Visual and Media Studies 507A; also C-L: International Comparative Studies

506S. Art and Markets. ALP, CCI, R, SS One course. C-L: see Visual and Media Studies 567S; also C-L: Economics 321S, Markets and Management Studies


522. Music in the Middle Ages. ALP, R One course. C-L: see Music 551

523. Topics in Renaissance Music. ALP, R One course. C-L: see Music 552

524. Music in the Baroque Era. ALP, R One course. C-L: see Music 553

550. Early and Medieval Christianity. CZ A survey of the history of Christianity from its beginnings through the fifteenth century. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Keefe and Steinmetz. One course.

551. Modern European Christianity. CZ A survey of the history of Christianity from the Reformation to the present, with emphasis on the early modern era. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Heitzenrater and Steinmetz. One course.

570S. The Society and Economy of Europe, 1400 - 1700. CCI, CZ, R One course. C-L: see History 519S

575S. Religion and Society in the Age of the Reformation. CZ, R One course. C-L: see History 523S

590. Advanced Topics in Medieval and Renaissance Studies. Topics may focus on fine arts, history, language and literature, or philosophy and religion. Open to seniors and graduate students; other students may need consent of instructor. Instructor: Staff. One course.

590S. Advanced Seminar in Medieval and Renaissance Studies. Topics may focus on fine arts, history, language and literature, or philosophy and religion. These seminar courses frequently engage interdisciplinary perspectives, historiography, and interpretation of medieval and Renaissance cultures. Open to seniors and graduate students; other students may need consent of instructor. Instructor: Staff. One course.

590-1. Topics in Early Modern Studies. ALP, FL, R One course. C-L: see French 590

590S-1. Topics in Romanesque and Gothic Art and Architecture. ALP, CCI, CZ, R One course. C-L: see Art History 590S-3

590S-2. Topics in Italian Renaissance Art. ALP, CCI, CZ, R One course. C-L: see Art History 590S-4

605. Introduction to Old English. ALP One course. C-L: see English 505

607. History of the German Language. One course. C-L: see German 560; also C-L: Linguistics 560

608S. Medieval and Renaissance Latin. ALP, CCI, CZ, FL One course. C-L: see Latin 508S

610S. Introduction to Medieval German: The Language of the German Middle Ages and Its Literature. ALP, FL, R One course. C-L: see German 610S

615S. Dante Studies. ALP, CCI, CZ One course. C-L: see Italian 583S

625S. Chaucer and His Contexts. ALP, CCI, R One course. C-L: see English 532S
630S. Shakespeare: Special Topics. ALP, R One course. C-L: see English 536S
632S. Special Topics in Renaissance Prose and Poetry: 1500 to 1660. ALP, R One course. C-L: see English 538S
640S. Topics in Renaissance Studies. ALP, CCI, CZ One course. C-L: see Italian 584S; also C-L: Art History 590S-2
642. Medieval Fictions. ALP, CCI, FL One course. C-L: see French 530; also C-L: Literature 541
647S. Latin Palaeography. ALP, CZ, FL One course. C-L: see Latin 584S
648. The Legacy of Greece and Rome. ALP, CCI, CZ One course. C-L: see Classical Studies 568
650. The Early Medieval Church. CZ Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Keefe. One course.
651S. The Early Medieval Church, Out of Africa: Christianity in North Africa before Islam. CZ Selected writings of Tertullian, Cyprian, and Augustine, as well as lesser known African Fathers, on topics such as the African rite of baptism, African creeds, and African church councils. Focus on major theological, liturgical, and pastoral problems in the African church in order to gain perspective on the crucial role of the African church in the development of the church in the West. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Keefe. One course.
653. The Sacraments in the Patristic and Early Medieval Period. CZ A study of the celebration and interpretation of baptism or eucharist in the church orders and texts of the early church writers. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Keefe. One course.
655. Early Christian Asceticism. CZ, EI One course. C-L: see Religion 634; also C-L: Study of Sexualities, Women's Studies
662. Origen. CZ, EI One course. C-L: see Religion 632
664. Augustine. CZ, EI One course. C-L: see Religion 633
667. Readings in Latin Ecclesiastical Literature. CCI, CZ Readings in Latin of pastoral, theological, and church-disciplinary literature from the late patristic and medieval period. Also offered as a graduate Religion and Divinity School course. Open to juniors and seniors only. Prerequisite: knowledge of Latin. Instructor: Keefe. One course.
669S. Medieval Philosophy. CCI, CZ, R One course. C-L: see Philosophy 618S
672. The Christian Mystical Tradition in the Medieval Centuries. CZ Reading and discussion of the writings of medieval Christian mystics (in translation). Each year offers a special focus, such as: Women at Prayer; Fourteenth-Century Mystics; Spanish Mystics. Less well-known writers (Hadewijch, Birgitta of Sweden, Catherine of Genoa) as well as giants (Eckhart, Ruusbroec, Tauler, Suso, Teresa of Avila, Julian of Norwich, Catherine of Siena, and Bernard of Clairvaux) are included. Also offered as a Divinity School course, and as Religion 742. Open to juniors and seniors only. Instructor: Keefe. One course.
675. Luther and the Reformation in Germany. CZ The theology of Martin Luther in the context of competing visions of reform. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Steinmetz. One course.
676. The English Reformation. CZ The religious history of England from the accession of Henry VIII to the death of Elizabeth I. Extensive readings in the English reformers from Tyndale to Hooker. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Steinmetz. One course.
677. Problems in Reformation Theology. CZ Consent of instructor required. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Steinmetz. One course.
679. Problems in Historical Theology. CZ Consent of instructor required. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Staff. One course.

680. Readings in Historical Theology. CZ Also offered as a Divinity School course. Open to juniors and seniors only. Prerequisites: Medieval and Renaissance Studies 550 and 551. Instructor: Staff. One course.

682. Christian Thought in the Middle Ages. CZ A survey of the history of Christian theology from St. Augustine to the young Martin Luther. Also offered as a Divinity School course. Open to juniors and seniors only. Instructor: Steinmetz. One course.

690S-1. Special Topics is Middle English Literature: 1100 to 1500. ALP, CCI, R One course. C-L: see English 530S

THE MAJOR

The major requires ten courses, two requirements and eight elective distribution courses taken in the following four areas of study: history; fine arts (art and music); language and literature (English, French, German, Greek, Italian, Latin, and Spanish); philosophy and religion.

Requirements. Students must either participate in the Medieval and Renaissance Focus Program or take Medieval and Renaissance Studies 151 and 152. In addition to these two courses, students must take the remaining eight elective courses in one of the following distributions: (a) 3-3-2-0, three courses in two of the four areas of study and two courses in a third area; or (b) 3-3-1-1, three courses in two of the four areas of study and one course in each of the other two areas.

Each program is tailored to the needs and interests of the student. After discussion with the director of undergraduate studies or another advisor for Medieval and Renaissance Studies, the student submits a provisional program of study outlining special interdisciplinary interests. Normally the program is planned before the end of the sophomore year to allow time to acquire a working knowledge of languages pertinent to specific interests.

Graduation With Distinction

Majors are encouraged to pursue honors work in an area of special interest.

Procedure for Selection of Students. The student should apply to the director of undergraduate studies or program coordinator during the junior year, and must maintain a minimum GPA of 3.5 in the Medieval and Renaissance Studies major.

Expected Product. A written thesis based on at least one independent study (Medieval and Renaissance Studies 491, 493) with a Medieval and Renaissance Studies faculty member who directs the thesis.

Evaluation Procedure. Evaluation by a committee of three Medieval and Renaissance Studies faculty members appointed by the director of undergraduate studies, one of whom must be the thesis director.

Levels of Distinction. Recommendation from the review committee for distinction, high distinction, and highest distinction based on the quality of the thesis and on performance in the major program.

Special Courses. The Medieval and Renaissance Studies independent study courses (Medieval and Renaissance Studies 491, 493) may count toward the major. The thesis may be written in conjunction with independent study work in either the junior or senior year.

THE MINOR

Requirements. Five courses, two of which must be Focus Program courses or Medieval and Renaissance Studies 151 and 152. The three remaining courses may be taken in any distribution suit the student's interests in consultation with a Medieval and Renaissance Studies advisor.

THE FOUR COURSE STUDY AREAS

The following courses are taken in distributions across four areas of study. Some of these courses are available in more than one study area. Students who have participated in the Focus Program in Medieval and Renaissance Studies may take Medieval and Renaissance Studies 151 and 152 to fulfill distribution requirements. Cross-listed courses may count toward the major or minor in both Medieval and Renaissance Studies and in the cross-listed departments or programs.
Area 1: Fine Arts

Area 2: History

Area 3: Language and Literature

Area 4: Philosophy and Religion

Additional Topics and Seminar Courses
The following topics courses are taught in various disciplines and vary from semester to semester. They may be taken in any of the above four study areas depending on the nature of their subjects. Students need to consult with the director of undergraduate studies or a Medieval and Renaissance Studies advisor to determine how any one of these courses may be distributed: 89S, 100, 100S, 151, 152, 190A, 200, 291, 293, 300, 300S, 390, 390A, 390S, 400, 590, 590S.

Military Science—Army ROTC (MILITSCI)
Visiting Professor Stallings, Major, U.S. Army, Chair and Director of Undergraduate Studies

The Department of Military Science offers students from all disciplines within the university the opportunity to study the following subjects: leadership theory and practice; management of time, personnel, and materiel; ethics; the role and responsibility of the military in contemporary society; and the philosophy and practice of military strategy and tactics. Freshman and sophomore level courses are open to all Duke students and do not require full participation in the Army ROTC Program. The leadership laboratory provides students a unique and dynamic hands-on leadership experience in addition to an opportunity to put military skills and tactics into practice. The laboratory is offered as an optional course for non-program students enrolled in the freshman courses. It is mandatory each semester for contracted cadets (both scholarship and non-scholarship) and for students who intend to contract or to apply for a scholarship.

The Army ROTC program is made up of a two-year basic course of study (freshman and sophomore level) and a two-year advanced course of study (junior and senior level), which includes a five-week leadership camp usually completed during the summer prior to the senior year. To be eligible for participation in the advanced course, students must successfully complete the basic course (unless direct entry is approved), be physically qualified, be of good moral character, be a U.S. citizen, have a minimum of two years remaining as a student (undergraduate or graduate level), and sign a contract to accept a commission in the United States Army, the Army National Guard, or the Army Reserve as directed by the Secretary of the Army. Direct entry into the advanced course is sometimes permitted if an applicant has previous military training or experience, or when a five-week leader’s training course is completed.

Students who are interested in full program enrollment and scholarship opportunities should consult the Department of Military Science (telephone 1-919-660-3090 collect, or 1-800-222-9184, toll free) for more detailed information. Also see the Army Reserve Officers’ Training Corps section under Special Programs in this bulletin.

91. Army Physical Fitness. Fitness program based on the US Army Physical Fitness Academy model to improve ability in cardiorespiratory endurance, muscular strength and endurance, and overall physical condition. Group stretching techniques, exercise regimens, and running programs; individual workout programs. Emphasis on ability group running. Counts as a physical education activity course; i.e., counts
toward the limit of two .5 credit physical activity courses that may be applied toward graduation. Satisfactory/Unsatisfactory grading only. Staff: Instructor. Half course.

**91L. Leadership Laboratory - Fall Semester Only.** (Fall semester only.) Introduces students to basic Army operations; includes team building, map reading, first aid, confidence training, rifle marksmanship, drill and ceremonies, Army doctrine and small unit tactics. Must be repeated with each fall semester course. Instructor: Staff.

**92. Advanced Army Physical Fitness.** Establish a personal exercise program to meet Army Physical Fitness Test (APFT) requirements and to demonstrate physical fitness leadership. Satisfactory/Unsatisfactory grading only. Staff: Instructor. Half course.

**92L. Leadership Laboratory - Spring Semester Only.** (Spring semester only.) Introduces students to basic Army operations; includes team building, map reading, first aid, confidence training, rifle marksmanship, drill and ceremonies, Army doctrine and small unit tactics. Must be repeated with each spring semester course. Consent of instructor required. Instructor: Staff.

**101S. Leadership and Personal Development.** This course is designed to inspire an interest in the principles and practices of leadership and to explore how these high-impact principles and practices might be applied at Duke, in the military, and to the civilian world of work. The course will explore topics such as values-based behavior [courage, trust, ethics], leadership and management, power and authority, individual motivation, cohesion, team and group effectiveness, and crisis leadership. Laboratory required for ROTC cadets. Instructor: Staff. Half course.

**150. Introduction To Tactical Leadership.** Develop your ability to be an effective leader and manager through exposure to leadership and developmental theories, principles and practices by building on concepts learned in Military Science 101S. Students will practice leadership fundamentals such as problem-solving and presentation skills, and develop an appreciation of the historical and cultural complexity of the environment in which military officers apply leadership techniques. Laboratory required for ROTC cadets. Consent of instructor required. Instructor: Staff. Half course.

**201. Innovative Team Leadership (Lecture).** Explore the theory and practical application of group dynamics, team building, and innovative leadership in both civilian and military contexts. Students will participate in practical application of personal motivation and team building through planning, executing and assessing team exercises. Builds on concepts taught in Military Science 101S and 150S. Laboratory required for ROTC cadets. Prerequisites: completion of Military Science 150S or consent of instructor. Instructor: Staff. Half course.

**250. Foundations of Tactical Leadership.** Apply adaptive leadership concepts and team building theory to the practical challenges of leading tactical teams in a complex contemporary environment. This course is designed to prepare students for more detailed study of small unit tactics; specific skill development includes terrain analysis, patrolling and operations orders. Laboratory required for ROTC cadets. Prerequisites: completion of Military Science 201. Instructor: Staff. Half course.

**301. Small Unit Military Leadership (Lecture).** The study, practice and evaluation of adaptive leadership skills in the context of squad tactical operations. Focus on developing cadets' tactical leadership abilities in preparation for ROTC’s summer Leadership Development and Assessment Course (LDAC). Laboratory required for Army ROTC cadets. Consent of instructor required. Prerequisite: Completion of first two years of ROTC or prior military experience. Instructor: Staff. One course.

**350. Tactics, Techniques, and Procedures for Military Leaders.** Use of increasingly intense situational leadership challenges to build cadet awareness and skills in leading tactical operations up to platoon level. Aspects of combat, stability and support operations. Conduct military briefings and develop proficiency in
garrison operations orders. Focus on developing skills in decision-making, persuading and motivating team members. Cadets evaluated as leaders in preparation for ROTC summer Leader Development Assessment Course (LDAC). Laboratory required for Army ROTC cadets. Consent of instructor required. Prerequisite: Military Science 301. Instructor: Staff. One course.

401S. Developing Adaptive Military Leaders. Development of cadet proficiency in planning, executing and assessing complex operations, functioning as a member of a staff, and providing performance feedback to subordinates. Assessing risk, making ethical decisions, and leading fellow ROTC cadets; identifying responsibilities of key staff, coordinating staff roles and using situational opportunities to teach, train and develop subordinates. Study of military justice and personnel processes in preparation for transition to the Army. Laboratory required for Army ROTC cadets. Consent of instructor required. Prerequisite: Military Science 301 and 350. Instructor: Staff. One course.

450S. Military Leadership in a Complex World. The dynamics of leading in the complex situations of current military operations. Differences in customs and courtesies, military law, principles of war and rules of engagement in the face of international terrorism. Aspects of interacting with non-government organizations, civilians on the battlefield and host nation support. Laboratory required for ROTC cadets. Consent of instructor required. Prerequisite: Military Science 401S. Instructor: Staff. One course.

Music (MUSIC)
Professor of the Practice Hawkins, Chair; Professor of the Practice Kelley, Director of Undergraduate Studies; Professor of the Practice Bagg, Director of Performance; Professors Berliner, Brothers, Gilliam, Jaffe, Lindroth, Todd; Associate Professors McCarthy, Meintjes, Rupprecht, Waebcr; Assistant Professor Supko; Professors Emeriti Bryan, Douglass, Silbiger, Ward, and Williams; Associate Professor Emeritus Saville; Assistant Professor Emeritus Henry; Professor of the Practice Emeritus Jeffrey; Professors of the Practice Bagg, Davidson, Dunn, Hawkins, Ku, Parkins, Raimi, and Wynkoop; Associate Professors of the Practice Kelley, Pritchard, and Troxler; Assistant Professor of the Practice Brown; Adjunct Associate Professor of the Practice Jensen; Adjunct Assistant Professor Roberts; Lecturers Bonner, Byrne, Cotton, Eagle, Elliott, Fancher, Finucane, Gilmore, Greenberg, Hanks, Heid, Kris, Lail, Lile, Link, Linnartz, Liu, Newsome, Niketopolous, Paolantonio, Reed, Simmons, Warburg; Visiting Professor Kramer; Visiting Assistant Professor Mösenbichler-Bryant; Visiting Instructor Zimmerman

A major, a major with concentration in performance, or a minor is available in this department.

Music is among the most ancient of human pursuits, and has long been viewed as a crucial part of education. As a discipline it has its own logic and grammar, in the understanding of which the mind is stretched and tested. Students at Duke encounter a variety of approaches to music that encompass the many ways that we create, perform, and comprehend it.

Courses fall into three broad categories: theory and composition, literature and history, and applied music (performance). Within these are included many kinds of instruction, such as lessons in performance and composition; theory; history and literature lectures and seminars; electronic music classes; ensembles; practical laboratory work (such as ear-training), coaching sessions in chamber music; and classes in jazz improvisation. Students’ musical activity can vary widely across the spectrum. Almost every student has some personal involvement with music, and the courses aim to further that involvement, whether it is a simple hobby or a compelling interest.

THEORY AND COMPOSITION
117. Aspects of Performance. ALP, CZ Course designed as academic companion to large performance projects. Includes exploration of topics related to the composer, the work, and its performance history and practice. Enrollment not restricted to ensemble members. Instructor: Staff. Half course.

121S. Sound for Film and Video. ALP, STS One course. C-L: Arts of the Moving Image 350S, Documentary Studies 277S, Information Science and Information Studies 243S

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124. The Rise of the Orchestra. ALP, CCI, CZ Taught in conjunction with Music 463S. Advanced musicianship skills relating to twentieth-century practice: post-tonal ear training and sight singing, open score-reading. Corequisite: Music 463S. Prerequisite: Music 461 or consent of instructor. Instructor: Staff. One course.


161. Introduction to Music Theory (Advanced). ALP Rudiments of music theory, including meter, major-minor tonality, and chordal vocabulary. Introduction to harmony, four-part chorale writing. Prerequisite: some previous exposure to music theory through playing or singing; familiarity with elementary concepts, e.g. key signature, scales, clefs. Not open to students who have taken Music 161-1. (Students without playing or singing experience, see Music 161-1.) Instructor: Troxler or staff. One course.

161-1. Introduction to Music Theory (beginning). ALP Rudiments of music theory, including meter, major-minor tonality, chordal vocabulary. Introduction to harmony, four-part chorale writing. Prerequisite: ability to read music in one clef. (Students with playing or singing experience, see Music 161.) Students who have previously taken Music 161 may not register for 161-1. Instructor: Troxler or Staff. One course.

162S. Introduction to Composition: Explorations in Musical Time and Space. ALP Exploration, in seminar/workshop format, of sound and music, expressed through projects involving instruments, voices, and intermedia. Consideration of the current field will provide concrete examples, ranging widely across "kinds of music." Investigations will touch on music theory and acoustics, orchestration, music technology and analysis. Primary emphasis on composing: creative discovery of expressive possibilities and compositional value of craft. Intended for students who may have written songs or composed, and who would like to continue their explorations. Instructor: Jaffe. One course.

171. Jazz Improvisation I. ALP The theory of jazz improvisation and its practical application to the different styles of jazz. Consent of instructor required. Instructor: Finucane or staff. Half course.

172. Jazz Improvisation II. ALP See Jazz Improvisation I. Prerequisite: Music 171 or consent of instructor. Instructor: Staff. Half course.

176. The Songwriter’s Vocabulary. ALP Writing songs in various twentieth-century popular styles. Fundamentals of form, harmony, voice leading, text setting, and production. Prerequisite: Music 55 or consent of instructor. Instructor: Staff. One course.

218. Musical Theater Workshop: Performance. ALP One course. C-L: see Theater Studies 211

219. Musical Theater Workshop: Creation. ALP One course. C-L: see Theater Studies 212

261. Theory and Practice of Tonal Music I. ALP Elementary principles of tonal organization: diatonic chord progressions and figured bass, two-part elementary counterpoint, introduction to musical forms. Writing of chorale-style settings. Laboratory. Prerequisites: basic knowledge of musical notation and vocabulary, including scales, basic chords and intervals, key signatures, meter, and rhythm; or Music 55. Instructor: Kelley, Lindroth, Parkins, Rupprecht, or staff. One course.


274S. Computer Music. ALP, R Computer music composition with an emphasis on digital synthesis, sampling, and related technologies. Study of recent computer music repertory. Prerequisite: Music 273 or 273S. Consent of instructor required. Instructor: Lindroth or staff. One course. C-L: Information Science and Information Studies
275S. Electronic Music and Video Workshop. ALP, STS Instruction in writing electronic music, making videos and animation, and combining both in collaborative multimedia projects. Projects, including papers and multimedia compositions explore the way cultures continue to evolve through multimedia expression. Instructor: Supko. One course. C-L: Arts of the Moving Image 358S, Visual Arts 258S

281S. Composition I. ALP, R Composing original music in smaller forms for voice, piano, and other instruments. Studies in compositional techniques. Prerequisites: Music 261 and 361 or consent of instructor. Instructor: Jaffe, Kelley, Lindroth, or staff. One course.

281T. Composition I. ALP, R Same as Music 281S, in tutorial format. Composing original music in smaller forms for voice, piano, and other instruments. Studies in compositional techniques. Prerequisites: Music 261 and 361 or consent of instructor. Not open to students who have taken Music 281S. Instructor: Jaffe, Kelley, or Lindroth. One course.

290S-2. Special Topics in Music Theory. ALP Topics vary. Prerequisite: Music 361 or consent of instructor. Instructor: Brown, Jaffe, Lindroth, or staff. One course.

361. Theory and Practice of Tonal Music II. ALP Chromaticism, modulation, musical forms, and counterpoint. Writing of short pieces (minuets, variations, songs). Laboratory. Prerequisite: Music 261. Instructor: Kelley, Lindroth, Rupprecht, or staff. One course.

381S. Composition II. ALP, R See Music 281S. Prerequisites: Music 261 and 361 or consent of instructor. Instructor: Jaffe, Kelley, or Lindroth. One course.

381T. Composition II. ALP, R Same as Music 381S, in tutorial format. Individual lessons in compositional techniques. See Music 151 or 151A. Prerequisites: Music 261, 361, and 281S or 281T OR consent of instructor. Not open to students who have taken Music 381S. Instructor: Jaffe, Kelley, or Lindroth. One course.

390S-1. Advanced Special Topics in Music. ALP Opportunities to engage with a specific issue in music. Seminar version of MUSIC 120. Instructor: Staff. One course.


461S. Advanced Composition. ALP, R Same as Music 461T except seminar format. Prerequisites: Music 281S and 381S or consent of instructor. Instructor: Jaffe, Kelley, Lindroth, or Supko. One course.

461T. Advanced Composition. ALP, R Individual weekly sessions for advanced students. May be repeated for credit. Prerequisites: Music 281S and 381S or consent of instructor. Instructor: Jaffe, Kelley, Lindroth, or Supko. One course.

463S. Theory and Practice of Post-Tonal Music. ALP Analytical studies and compositions in various forms, techniques, and styles, with an emphasis on twentieth-century music. Prerequisite: Music 461 or consent of instructor. Instructor: Jaffe. One course.

465S. Counterpoint. R Polyphonic practice of the late baroque: writing of two- and three-part compositions in a variety of genres (baroque dances, inventions, preludes, fugues). Prerequisite: Music 461 or consent of instructor. Instructor: Jaffe. One course.

HISTORY, LITERATURE, AND ETHNOMUSICOCIOLOGY

89S. First-Year Seminar. ALP Topics vary each semester offered. Instructor: Davidson, Todd, Waeber, or staff. One course.


120. Music, Sound, and Style. ALP, CCI, CZ Study of the components of music (e.g. melody, rhythm) through comparative listening to styles from different places and times, ranging from current popular artists to classical, jazz, and world music. Discussion of the shared and unique aspects of these styles, their historical
and cultural links, and how those shape our tastes. Instructor: Davidson, Gilliam, Kelley, McCarthy, Meintjes, or staff. One course.

122. **Choral Music Past and Present. ALP** Exploration of great works of choral music from the 16th century to the present. Includes settings of the Requiem and classics such as Handel's "Messiah". No technical background required, just basic familiarity with musical notation. Instructor: McCarthy. One course.

125. **Listening to Music: The European-American Tradition. ALP, CCI** Explores the elements, forms, and genres of the European and American traditions from the sixteenth to the twenty-first century, with attention to the growing dialogue between this "classical" repertoire and popular genres of the past century. Instructor: Davidson, Gilliam, Todd or staff. One course.

129S. **Sound, Music, and the Moving Image. ALP, CCI, CZ, W** Introduction to film studies with emphasis on uses and functions of sound, film music, sound and other aural objects such as the voice, through a selected body of works. Topics include representations of sound, music and voice, the functions of pre-existing music and their relations with the moving image in cinema and television; gendered representations of music and voice in pop and rock music videos; Hollywood practices and non-Hollywood practices. Instructor: Waeb. One course. C-L: Arts of the Moving Image 230S, International Comparative Studies

130. **World Music: Aesthetic and Anthropological Approaches. ALP, CCI, CZ** Study of musical styles and practices in relation to issues of creativity, forms of power, and cultural survival; focus on the music and experiences of indigenous peoples, refugees, migrants, and immigrants. Instructor: Meintjes or staff. One course. C-L: Cultural Anthropology 131, International Comparative Studies, Documentary Studies

133S. **African Mbira Music: An Experiential Learning Class. ALP, CCI, CZ** Building and performing one of Africa's most popular musical instruments, the mbira (a kalimba or "finger piano"). Ethnomusicological readings on the instrument's history, role in society, and meaning for musicians. Analysis of musical examples; learning the mbira's repertory and mastering skills common to many forms of African music, including performance of polyrhythms, responsive integration of instrumental and vocal patterns, and formulation of unique renditions of pieces through improvisation. Weekly class labs. Course requires no prior experience with music or woodworking. Instructor: Berliner. One course. C-L: African and African American Studies 109S, Cultural Anthropology 133S

137. **Music, Social Life, and Scenes. ALP, CCI, CZ, R, W** Study of musical styles and performance practices in relation to issues of identity and other aspects of social life; focus on the diverse local musical scenes and traditions and on learning through doing original fieldwork. Instructor: Meintjes. One course. C-L: Cultural Anthropology 137, Documentary Studies

140. **Introduction to Jazz. ALP, CCI** Lecture version of Music 140D. Instructor: Brown. One course. C-L: African and African American Studies 140

140D. **Introduction to Jazz. ALP, CCI** A survey examining musical, aesthetic, sociological, and historical aspects. Instructor: Brothers, Brown, or staff. One course. C-L: African and African American Studies 140D

143. **History of Rock. ALP, CZ** The history of rock music from the 1950s to the present. Beginning with its roots in rhythm and blues, country and western, and commercial pop, examination of diverse musical styles, artists and bands, and the many historical, technological, and cultural factors that have contributed to the rise and popularity of rock music. Instructor: Staff. One course.

144. **Meet the Beatles and the 1960s. ALP, CZ** The music of the Beatles in the context of 1960s counterculture: rock and roll rebellion, Dylan and psychedelic drugs, recording studio techniques, Eastern religion and the anti-war movement. Instructor: Brothers. One course.

145. **Hip-Hop/Rap Music Appreciation. ALP** This course explores the development of Hip-Hop and Rap music from an inner-city expression of music into a worldwide social and cultural movement. Rap, considered popular music at the beginning of the 21st century, has a huge influence on mainstream culture. Students will have a unique opportunity to develop and/or enhance their knowledge and comprehension of this popular and influential genre. Instructor: Roberts. One course.
150S. Western Musical Instruments. ALP, CCI, CZ, W Survey of the history, technology, and classification of Western musical instruments. Comparative study of examples from Europe and America, concentrating on the period 1700-1945, but examining earlier, sometimes non-Western origins, as well as present-day usage. Hands-on, primary research on instruments in Duke's musical collections. Instructor: Neece. One course.


190FS. Focus Seminar. ALP Topics vary each semester. Open only to students in the Focus Program. Instructor: Brothers, Jaffe, or McCarthy. One course.

190S. Special Topics in Music. ALP Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

221S. Writing About Music. ALP, W Selected topics in writing about music, to include a range of musical genres and styles engaged through listening, analytical study, and concert attendance. Topics may vary each semester and include studies of critical prose, reviews, various kinds of analysis, program notes, abstracts, music itself as criticism, use of musical examples, bibliography. Prerequisite: Music 55 or basic knowledge of music vocabulary or consent of the instructor. Instructor: Staff. One course.

222S. Radio: The Theater of the Mind. ALP, CZ One course. C-L: see Theater Studies 207S; also C-L: Policy Journalism and Media Studies

234. Music in East Asia. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 214; also C-L: Religion 245

235. Music in South Asia. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 254; also C-L: Religion 246

238. The Arts and Human Rights. ALP, EI, SS One course. C-L: see Cultural Anthropology 248; also C-L: Study of Ethics 261, Public Policy Studies 252

239S. Sound in Social Life. ALP, CCI, STS One course. C-L: see Cultural Anthropology 222S

241. Piano Music. ALP The two-hundred-year tradition of music for the piano, the evolution of the instrument, and its principal composers (including Mozart, Beethoven, Chopin, Liszt, Brahms, and other major figures up to the present day). Performance traditions, the role of virtuosity, and improvisation. Instructor: Todd. One course.

242S. Opera. ALP, CCI History of opera in many forms, including operetta and Broadway musical. Exploration of opera as music, image, and text, in context of changing society and political climates. Includes study of modern stagings and relevance to modern society. Instructor: Waeber. One course. C-L: Italian 286S

243. The Great American Musical. ALP One course. C-L: see Theater Studies 210

249. Hollywood Film Music. ALP Film scores from the 1930s to the present. Technical, structural, and aesthetic issues, as well as the problem of musical style. Prerequisite: Music 55 or consent of instructor. Instructor: Gilliam. One course. C-L: Arts of the Moving Image

251. Bach and His Time. ALP, CCI The music of Johann Sebastian Bach and its historical and cultural background. Some consideration also given to the music of Bach's contemporaries, including Vivaldi, Rameau, and Handel. Instructor: McCarthy or staff. One course. C-L: International Comparative Studies

252. Mozart and His Time. ALP, CCI, W The music of Wolfgang Amadeus Mozart and its relation to contemporary political and cultural developments. Instructor: McCarthy or staff. One course.

253. Beethoven and His Time. ALP, CCI The music of Beethoven and its relation to contemporary political and cultural developments. Instructor: Gilliam or Todd. One course. C-L: International Comparative Studies

255S. Music History I: To 1650. ALP, CCI, CZ The history of music in medieval and early modern Europe in its cultural and social context. Prerequisite: Music 261 or consent of instructor. Instructor: Brothers or McCarthy. One course. C-L: Medieval and Renaissance Studies 201S

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256S. Music History II: From 1650 to 1850. ALP, CCI, CZ, R The history of music in Europe in its cultural and social context. Prerequisite: Music 261 or consent of instructor. Instructor: Staff. One course. C-L: International Comparative Studies

257. Music History III: After 1850. ALP, CCI, CZ, R The history of music in Europe and the United States in its cultural and social context. Prerequisite: Music 261 or consent of instructor. Instructor: Gilliam or Todd. One course. C-L: International Comparative Studies

259. Music and Modernism. ALP, W A survey of Debussy, Stravinsky, Bartók, Varèse, Ives, and other composers who transformed music in Europe and the United States before World War II, as well as prominent post-war figures such as Lutosławski, Messiaen, and Carter. Topics include the changing role of the composer in society, relationships to literary and visual modernism, the evolution of musical technology, and the composer's dialogues with vernacular music and other traditions. Instructors: Jaffe, Lindroth, or Kelley. One course.


290S-1. Special Topics in Music History. ALP Topics vary. Instructor: Staff. One course.

290S-3. Special Topics in Ethnomusicology. ALP, CZ Topics to be announced addressing a range of musical traditions from around the world. Instructor: Meintjes or staff. One course.

290S-4. Special Topics in Jazz. ALP Topics vary. Also taught as African and African American Studies 141S. Prerequisite: Music 140 or consent of instructor. Instructor: Brothers or staff. One course.

326S. The Art of Performance. ALP Fundamental issues in musical performance, examined through performing, comparative listening, readings, and discussion. In-class performance required. Prerequisites: Ability to read music and proficiency in instrumental or vocal performance. Consent of instructor required. Instructor: Staff. One course.

341S. The Diaghilev Ballet: 1909-1929. ALP, CCI, CZ, R, W One course. C-L: see Dance 326S; also C-L: Russian 218S

342. Music for Dancers. ALP One course. C-L: see Dance 375

390. Advanced Special Topics in Music. ALP Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

490S. Advanced Topics in Music. ALP, R Primarily for junior and senior music majors. Topics to be announced. Prerequisites: Music 255S, 256S, 257, and 461. Instructor: Staff. One course.

501. Introduction to Musicology. ALP, R Methods of research on music and its history, including studies of musical and literary sources, iconography, performance practice, ethnomusicology, and historical analysis, with special attention to the interrelationships of these approaches. Instructor: Staff. One course.


552. Topics in Renaissance Music. ALP, R Selected topics. Instructor: Brothers or McCarthy. One course. C-L: Medieval and Renaissance Studies 523


560. Tonal Analysis. ALP, R In-depth study of various methods for analyzing tonal music. Approach and content vary by instructor. Instructor: Staff. One course.
561S. Analysis of Early Music. ALP Selected areas of "pre-tonal" music and various analytical methodologies that have been developed to understand them. Content changes, from semester to semester and with different instructors. Possible areas covered include plainchant, trouvère monophony, Machaut, Fifteenth-century polyphony, modal music of the Renaissance, early seventeenth-century repertories. Instructors: Brothers or McCarthy. One course.

590. Selected Topics in Analysis. ALP, R An exploration of analytical approaches appropriate to a diversity of music, which may include settings of literary texts, pre-tonal music, and music in oral and vernacular traditions. Prerequisite: Music 560 or consent of instructor. Instructor: Rupprecht or staff. One course.

663. Theories and Notation of Contemporary Music. ALP, R The diverse languages of contemporary music and their roots in the early twentieth century, with emphasis on the problems and continuity of musical language. Recent composers and their stylistic progenitors: for example, Ligeti, Bartók, and Berg; Carter, Schoenberg, Ives, and Copland; Crumb, Messiaen, and Webern; Cage, Varèse, Cowell, and Stockhausen. Instructor: Jaffe, Lindroth, or Supko. One course.

690S-1. Composition Seminar: Selected Topics. ALP, R Selected topics in composition. Instructor: Jaffe, Lindroth, or Supko. One course.

697. Composition. Weekly independent study sessions at an advanced level with a member of the graduate faculty in composition, producing musical scores (or in some cases, audio documents) which accrue towards the production of a portfolio. Consent of instructor required. Instructor: Jaffe, Lindroth, or Supko. One course.

698. Composition. Continuation of Music 697. Weekly independent study sessions at an advanced level with a member of the graduate faculty in composition, producing musical scores (or in some cases, audio documents) which accrue towards the production of a portfolio. Consent of instructor required. Instructor: Jaffe, Lindroth, or Supko. One course.

699. Composition. ALP Continuation of Music 698. Weekly independent study sessions at an advanced level with a member of the graduate faculty in composition, producing musical scores (or in some cases, audio documents) which accrue towards the production of a portfolio. Consent of instructor required. Instructor: Jaffe, Lindroth, or Supko. One course.

INDEPENDENT STUDY
Admission will be subject to the approval of the director of undergraduate studies and the instructor. The instructor and course content will be established in accordance with the individual student's interests and capacities.

393. Research Independent Study. R Individual research and/or theoretical analysis in a field of special interest, under the supervision of a faculty member, resulting in a substantial paper that contains significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

APPLIED MUSIC
Provided they qualify by audition, students may enroll in private instruction and participate in ensembles. Auditions must be arranged with the instructor prior to registration. Enrollment in an applied music course does not guarantee permission to enroll in the instructor's class or ensemble the following semester; in some cases another audition may be required. For those students who wish to study privately but do not qualify for university-level instruction, a list of music teachers in the immediate area who are available to Duke students can be obtained from the department office. All applied music courses may be repeated for credit, but no more than two ensembles may be taken concurrently.

Credit in Applied Music. Credit for instruction in courses below 210 is granted on the basis of a half course per semester for one hour of private instruction per week, or a half course per year for one half hour of private instruction or one period of class study. An additional weekly class meeting for performance and criticism may be required by the instructor without additional credit.
**Fees.** Applied music instruction in one medium (instrument or voice) is offered free to declared music majors. There is a fee for additional instruction for music majors and all instruction for minors and nonmajors. For specific information on those fees (for one-hour and half-hour private lessons and for class lessons) consult the Office of the Bursar.

Fees are not refundable after the final drop/add day.

No charge is made for practice room facilities for students registered at Duke. A fee schedule for the use of facilities by others is available from the music department office.

**115S. Vocal Diction.** Italian/English. For singers, actors, radio announcers, and public speakers. Introduction to the international phonetic alphabet. Students will be required to sing in class. Written, oral, and vocal performance examinations. Instructor: Cotton or Linnartz. Half course.

**116S. Vocal Diction.** Continuation of Music 115S. German/French. Instructor consent required. Instructor: Cotton or Linnartz. Half course.

**Instruction: half hour**

**101-1. Class Piano.** Instructor consent required. Instructor: Greenberg. Quarter course.

**101-2. Class Voice.** Instructor: Cotton or Linnartz. Quarter course.

**101-3. Class Guitar.** Instructor: Reed. Quarter course.

**101-4. Djembe Class.** Instructor: Simmons. Quarter course.

**101-5. Mbira Class.** Instructor consent required. Instructor: Staff. Quarter course.


**103-2. Jazz Piano.** Instructor: Paolantonio or staff. Quarter course.

**103-3. Organ.** Instructor: Parkins. Quarter course.

**103-4. Harpsichord.** Instructor: Parkins. Quarter course.

**104-1. Violin.** Instructor: Bonner, Ku, Pritchard, or Warburg. Quarter course.

**104-2. Viola.** Instructor: Bagg. Quarter course.

**104-3. Cello.** Instructor: Raimi. Quarter course.

**104-4. Double Bass.** Instructor: Link. Quarter course.

**104-5. Classical Guitar.** Instructor: Reed. Quarter course.

**104-6. Jazz Guitar.** Instructor: Lile. Quarter course.

**104-7. Harp.** Instructor: Byrne. Quarter course.

**105-1. Flute.** Instructor: Troxler. Quarter course.

**105-2. Oboe.** Instructor: Newsome. Quarter course.

**105-3. Clarinet.** Instructor: Gilmore. Quarter course.

**105-4. Bassoon.** Instructor: Elliott. Quarter course.

**105-5. Saxophone.** Instructor: Fancher. Quarter course.

**105-6. Jazz Saxophone. ALP Applied lessons in jazz saxophone. Instructor consent required. Instructor: Finucane. Quarter course.**

**106-1. Trumpet.** Instructor: Eagle. Quarter course.

**106-2. French Horn.** Instructor: Niketopulos. Quarter course.

**106-3. Trombone.** Instructor: Kris. Quarter course.

**106-4. Tuba.** Instructor: Kris. Quarter course.

**107-1. Percussion.** Instructor: Hanks. Quarter course.

**107-2. Djembe.** Instructor: Simmons. Quarter course.


Instruction: 1 hour


Ensemble Classes: pass/fail


Other Applied Music Courses

318. Instrumental Conducting. ALP Development of techniques of conducting instrumental ensembles with emphasis on orchestral repertoire. Score-reading and analysis, principles of interpretation, and practical conducting experience. Prerequisite: Music 361 and consent of instructor. Instructor: Davidson, Mösenbichler-Bryant, or staff. One course.

319. Choral Conducting. ALP Development of techniques of conducting vocal repertoire, ranging from church anthems to large-scale works. Score-reading and analysis, principles of interpretation, and practical conducting experience. Prerequisite: Music 361 or consent of instructor. Instructor: Wynkoop. One course.

390-1. Special Topics in Interpretation and Performance. ALP Interpretative analysis of instrumental (piano, strings, winds) and vocal repertoire from baroque to modern composers. Participants expected to perform. Consent of instructor required. Instructor: Cotton, Dunn, Linnartz, Love, or Troxler. One course.

401. Advanced Study in Musical Performance. Open only to sophomores, juniors, and seniors possessing an exceptional technical and interpretative command of a musical medium. Requires either a half-length recital at the end of each semester of study or a full-length recital at the end of the second semester. In the latter case, a brief performance before a jury of music department faculty is required at the end of the first semester. May be repeated for credit. Prerequisites: previous registration in private instruction in applied music at Duke, audition, and consent of instructor. Instructor: Staff. One course.

418. Advanced Study in Conducting. Advanced work in reading scores, analysis, principles of interpretation, and practical conducting experience. May be repeated for credit. Prerequisite: Music 318 or 319 or consent of instructor. Instructor: Davidson, Mösenbichler-Bryant, or Wynkoop. One course.

511-1. Collegium Musicum. An opportunity to study and perform vocal and instrumental music from the Middle Ages through the Baroque. Weekly rehearsals; one or two concerts per semester. Audition and consent of instructor required. Instructor: McCarthy or staff.

THE MAJOR

The requirements present a balanced selection of courses in music theory, history, literature, and performance, and are a means of preparing graduates for further professional training in the art of music. The music major can also be an attractive pursuit for the well-rounded undergraduate planning a career in another field. A sequence of three courses seeks to develop the student’s fluency in music theory, while another three semesters are devoted to a survey of Western music history. Students add breadth to their program by choosing classes from three additional categories: music from the post-tonal era, music from outside the Western classical tradition, and studies in advanced performance and composition. As they progress through the major curriculum, students develop their practical musicianship and performance skills through music theory labs, applied lessons, and participation in music department ensembles. A research seminar provides the music major’s senior year capstone experience.

The music major requires ten full course credits, at least eight of which must be at the 100 level or above, excluding Music 115S, 116S, 117, 120, 126, 140, 161, 161-1, 171, 172, 176, 190S, and 190FS), and study in applied music (see below).

The major offers two tracks.

1. Major in Music

   Prerequisite. Music 261

   Requirements. Music 255S, 256S, 257, 361, 461, 490S or a 500-level course approved by the director of undergraduate studies. One course each from two of the following three groups:
1. Group A: Music 259, 463S
2. Group B: Music 130, 137, 142, 234, 235, 290S-3, 290S-4
3. Group C: Music 401, 418, 461

One additional music elective approved by the director of undergraduate studies. Two semesters of applied music study in an instrument or voice; two semesters of participation in a departmental ensemble (excluding Music 210-3). Faculty advisory panel consultation during sophomore year. Those who plan graduate study in music are strongly advised to prepare themselves in two foreign languages.

2. Major in Music with Concentration in Performance

Prerequisite. Music 261.
Requirements. Music 255S, 256S, 257, 361, 461, 490S or a 500-level course approved by the director of undergraduate studies.

Two full credits of Music 401, culminating in a recital. One additional music elective approved by the director of undergraduate studies.

At least five semesters of applied music (Music 103-108, 203-208, 401) earning a minimum of four full credits; two semesters of participation in a departmental ensemble (not 210-3).

Faculty advisory panel consultation during sophomore year.

Departmental Graduation with Distinction. Music majors who have earned a minimum 3.5 average in music courses may undertake work leading to departmental Graduation with Distinction. The candidate must make application to the director of undergraduate studies by March 20 of the junior year. The project is normally a year-long endeavor involving an independent study or an appropriate graduate seminar each semester of the senior year. It must culminate in (a) a substantial paper (historical, analytical, or theoretical); or (b) a full-length recital with a shorter paper or composition; or (c) a major composition with a shorter paper or half-length recital. The final project must be approved by a faculty committee.

THE MINOR

A minimum of five and one-half course credits is required for the minor, of which at least three full course credits must be above the 100 level (excluding Music 115S, 116S, 117, 120, 126, 140, 161, 161-1, 171, 172, 176, 190S, and 190FS).

Requirements.
1. Music 261
2. One course in music history from among: Music 255S, 256S, 257
4. Two semester courses in performance from among: Music 101-213 (excluding 210-3), 318, 319, 418, 401
5. Two additional full course credits in music, one of which must be above 213.

Graduation with Distinction in Music Performance for Non-Majors. Candidates for Distinction in Music Performance for Non-Majors apply to the director of undergraduate studies by April 1 of their junior year and are admitted to the program by a faculty committee on the basis of recent live recordings. During the senior year the student will enroll in Music 401 (Advanced Study in Performance) both semesters. A Distinction in Musical Performance project consists of (a) a full recital supported by a high-quality audio or video recording as documentation of the event; and (b) a written component, either in the form of an analytical paper or other organized commentary on the recital. To be awarded Distinction a student must maintain a GPA of 3.5 in the core Music Department courses, and a 3.3 GPA overall. For more information, please consult the Music Department website, www.music.duke.edu.

Naval Science—Naval ROTC (NAVALSCI)

Professor Wright, Captain, U.S. Navy, Chair; Visiting Assistant Professor Connor, Lieutenant, U.S. Navy, Director of Undergraduate Studies; Visiting Associate Professor Spano, Lieutenant Colonel, U.S. Marine
Neither a major nor minor is available in this program.

Courses in naval science are open to all students. A scholarship program is available for students in the department who commit to commissioning into service as an officer in the United States Navy or Marine Corps.

The Department of Naval Science offers students an opportunity to gain a broad-based knowledge in maritime security, strategy, and leadership. This understanding is derived from the study of: maritime and military history; current naval operations, ship systems, practices and evolutions used on sea-going vessels around the world today; United States’ national strategic goals and operations that accomplish these goals; and the leadership and management skills required to accomplish these missions.

The program draws upon the expertise of visiting professors, all of whom are active duty naval officers as well as subject matter experts in current naval operations, offering a wide range of backgrounds in surface, undersea, air, and land warfare.

**89S. First-Year Seminar.** Topics vary each semester offered. Instructor: Staff. One course.

**101. Introduction to Naval Science.** Introduction to the organization, missions, and branches of specialization within the United States Navy and Marine Corps. Customs, traditions, leadership, career opportunities, and Naval and Marine Corps operations. Instructor: Staff.

**101L. Naval Orientation Laboratory.** Practical application of the elements and material presented in Naval Science 101. Instructor: Staff.

**111. Seapower and Maritime Affairs. CZ, STS** This course is a conceptual study of the history and strategy of sea faring nations. The course examines the political and military impact of events from the birth of sea power in the Mediterranean, to the expansion through the Atlantic Ocean, and the spread of sea power to North America. It examines the development of strategy on the seas, and the impact on global economic forces. This course uses examples of military engagements on the seas from the American Revolution to the Global War on Terrorism and Operation Iraqi Freedom. Instructor: Staff. One course.

**111L. Seapower and Maritime Affairs Laboratory.** Case studies and contemporary issues dealing with United States Navy. Instructor: Staff.

**189L. First Year Naval Leadership Laboratory.** Practical application of military discipline, leadership and management. Also provides general military training. Mandatory for first year Naval ROTC program students. Instructor: Staff.

**213S. Evolution of Warfare. STS** Continuity and change in the history of warfare, with attention to the interrelationship of social, political, technological, and military factors. Instructor: Staff. One course.

**215S. Amphibious Warfare.** Development of amphibious doctrine, with attention to its current applications. Instructor: Staff. One course.

**223. Naval Leadership and Management. SS** Examination of current and classical leadership and management theories, as well as organizational behavior in the context of military organization. Topics include managerial functions, performance appraisal, motivation theories, group dynamics, leadership theories and communication. Instructor: Staff. One course.

**223L. Naval Leadership and Management I Laboratory.** Practical application of the theories discussed in Naval Science 223. Instructor: Staff.

**231. Concepts and Analyses of Naval Tactical Systems.** The study of weapons systems used aboard naval vessels and aircraft. Detection systems and systems integration into current naval platforms and their offensive and defensive capabilities. Instructor: Staff. One course.

**231L. Naval Tactical Systems Laboratory.** Practical application of the theories and principles of naval tactical systems. Instructor: Staff.
289L. **Second Year Leadership Laboratory.** Practical application of military discipline, leadership and management. Also provides general military training. Mandatory for second year Naval ROTC program students. Instructor: Staff.

291. **Independent Study, No Credit.** Individual non-research directed study in a field of special interest related to non-credit naval science courses, under the supervision of a faculty member, resulting in an academic product. Instructor: Staff.

331. **Naval Ship Systems.** Quantitative study of basic naval ships' systems. Focus on propulsion and various auxiliary systems. Ship design, stability, and damage control. Instructor: Staff. One course.

331L. **Naval Ships Systems Laboratory.** Practical application of the theories and principles of naval ships systems. Instructor: Staff.

353. **Navigation.** STS Theory, principles, and procedures of ship navigation, movements, and employment. Dead reckoning, piloting, celestial and electronic principles of navigation. Naval Science 353L should be taken concurrently. Instructor: Staff. One course.

353L. **Navigation Laboratory.** Practical application of the theories and principles of navigation as presented in the lecture series. Instructor: Staff.

381L. **Marine Leadership Laboratory.** Marine Corps career management, naval correspondence, force structure, leadership techniques, and training. Instructor: Staff.

383L. **Marine Leadership Laboratory.** Continuation of Naval Science 381L. Instructor: Staff.

389L. **Third Year Naval Leadership Laboratory.** Practical application of military discipline, leadership and management. Also provides general military training. Mandatory for third year Naval ROTC program students. Instructor: Staff. One course.

391. **Independent Study.** Individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic product. Open only to qualified students in junior or senior years by consent of director of undergraduate studies. Instructor: Staff. One course.

423L. **Naval Leadership and Management II Laboratory.** The practical application of theories discussed in Naval Science 423S. Instructor: Staff.

423S. **Leadership and Ethics.** EI Capstone Course that examines principles of leadership and ethical decision-making through study and interactive discussion of classical and contemporary course documents and case studies. Coursework includes Constitutional Law, Natural Law Theory, as well as works by Kant, Mill, and Aristotle, among others. Conducted in seminar format. Prerequisites: Naval Science 101 or Naval Science 223. Instructor: Staff. One course.

453. **Naval Operations.** Components of general naval operations, including concepts and application of tactical formations and dispositions, relative motion, maneuvering board and tactical plots, rules of the road, and naval communications. Prerequisite: Naval Science 353 or consent of instructor. Instructor: Staff. One course.

453L. **Naval Operations Laboratory.** Practical application of the theories of naval operations as presented in the lecture series. Instructor: Staff.

489L. **Fourth Year Naval Leadership Laboratory.** Advanced practical application of military discipline, leadership and management. Also provides general military training. Instructor: Staff.

**Neurobiology**

For courses in neurobiology, see the listing under Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates section on page 442.
Neuroscience (NEUROSCI)
Professor Williams, Director of Undergraduate Studies; Associate Professor White, Associate Director of Undergraduate Studies

A major or a minor is available in this program. A certificate is available through 2013.

Like the inner workings of the brain itself, Neuroscience synthesizes discovery from diverse sources of knowledge. The undergraduate curriculum in Neuroscience reflects this interdisciplinary perspective and challenges students to explore knowledge derived from three levels of analysis: (1) the molecular and cellular level; (2) the level of neural circuits within which cells are organized and interconnected; and (3) the level of behavior where the functions of neural circuits and systems, including human cognition, are manifest. A comprehensive understanding of neuroscience requires knowledge of each level and integrative learning across levels.

The principal strength of this transdepartmental program is that it provides rich opportunities for undergraduate students to study brain science with faculty from diverse disciplines who bring their complimentary perspectives and expertise to the classroom and laboratory. Thus, the undergraduate curriculum in Neuroscience is truly a joint, interdisciplinary major/minor that draws faculty and courses from several departments, chiefly the Department of Psychology & Neuroscience and the Department of Biology, both of which are in Trinity College of Arts and Sciences. There are also important contributions from the Department of Neurobiology in the Duke University School of Medicine and the Biomedical Engineering Department in the Pratt School of Engineering at Duke University. Furthermore, the broad impact of discovery in neuroscience now extends beyond these academic disciplines where neuroscientists collaborate and regularly interact with experts in ethics, law, business, social sciences, philosophy, the arts, and the humanities. Accordingly, our neuroscience curriculum reflects this broad interdisciplinary platform for discovery and learning, with a rich offering of experiences that reflect the exciting growth of neuroscience and its increasing relevance to real-world problems.

GATEWAY COURSES
193FS. Neurobiology of Mind. NS One course. C-L: see Neurobiology 193FS; also C-L: Psychology 193FS
195FS. Neuroeconomics: The Neurobiology of Decision Making. NS, SS One course. C-L: see Neurobiology 195FS

CORE COURSES
201. Fundamentals of Neuroscience (B). NS, STS One course. C-L: see Psychology 275; also C-L: Biology 224
211. Brain and Behavior (B). NS One course. C-L: see Psychology 276
212. Introduction to Cognitive Neuroscience (B, C). NS One course. C-L: see Psychology 257; also C-L: Philosophy 249
223. Cellular and Molecular Neurobiology. NS One course. C-L: see Biology 223

ELECTIVES—RESEARCH
150. Research Practicum. Introduction to faculty-directed research, often preparing the student for independent study. Preliminary research activities include readings, regular research discussions, and, for some, data collection and analysis, as a means to explore the potential for the more formally planned and intensive Research Independent Study and the greater level of commitment required; does not obligate student or faculty to subsequent Research Independent Study. Instructor consent required. Satisfactory/unsatisfactory grading only. Instructor: Staff. Half course.

493. Research Independent Study 1. R First term of Research Independent Study in a subfield of neuroscience of special interest to student, under the supervision of a faculty member. Concludes with
submission of a substantive written report containing background, methods, and significant analysis and interpretation of data. Meets general requirement of a curriculum Research (R) course. Open to students after completion of 2 NEUROSCI courses; pre-approval of project by supervising faculty and Director of Undergraduate Studies in Neuroscience required. May be repeated with new faculty mentor or continued in NEUROSCI 494. Instructor: Staff. One course.

494. Research Independent Study 2. R Second term of Research Independent Study in a subfield of neuroscience of special interest to student, under the supervision of a faculty member. Concludes with submission of a substantive written report containing background, methods, and significant analysis and interpretation of data. Meets general requirement of a curriculum Research (R) course. Open to students continuing same project as for NEUROSCI 493; pre-approval of project by supervising faculty and Director of Undergraduate Studies in Neuroscience required. May be repeated with new faculty mentor or continued in NEUROSCI 495. Instructor: Staff. One course.

495. Research Independent Study 3. R Third term of Research Independent Study in a subfield of neuroscience of special interest to student, under the supervision of a faculty member. Concludes with submission of a substantive written report containing background, methods, and significant analysis and interpretation of data. Meets general requirement of a curriculum Research (R) course. Open to students continuing same project as for Neuroscience 493-494; pre-approval of project by supervising faculty and Director of Undergraduate Studies in Neuroscience required. May be repeated with new faculty mentor or continued in Neuroscience 496. Instructor: Staff. One course.

496. Research Independent Study 4. R Fourth term of Research Independent Study in a subfield of neuroscience of special interest to student, under the supervision of a faculty member. Concludes with submission of a substantive written report containing background, methods, and significant analysis and interpretation of data. Meets general requirement of a curriculum Research (R) course. Open to students continuing same project as for Neuroscience 493-495; pre-approval of project by supervising faculty and Director of Undergraduate Studies in Neuroscience required. Instructor: Staff. One course.

ELECTIVES—REGULAR

111FS. The Neuroscience of Reading & Language Comprehension. NS, R One course. C-L: see Linguistics 211FS

116FS. Neuroscience and Human Language. NS, SS One course. C-L: see Linguistics 216FS; also C-L: Russian 216FS

116S. Neuroscience and Human Language. NS, SS One course. C-L: see Linguistics 216S; also C-L: Russian 216S

241D. Flaubert's Brain: Neurohumanities. ALP, CCI One course. C-L: see French 481D; also C-L: Literature 246D

258. Decision Neuroscience. NS, SS, STS One course. C-L: see Psychology 258

267. Neuroethics. EI, NS, SS, STS Focus on emerging ethical controversies concurrent with advances in neuroscience. Background material covered: concepts and methods in neuroscience; theories of ethics and morality from philosophy, law, and other fields. Ethical topics covered: biological bases of morality; emotions and decision making; neuroeconomics and neuromarketing; pathologies of mind and behavior; volition and legal culpability. Course format: combined lectures, discussion, interactive activities, with case studies and real-world examples (e.g., neuroimaging as legal evidence). Prior coursework in neuroscience and/or ethical inquiry recommended. Instructor: Huettel, Sinnott-Armstrong. One course. C-L: Psychology 278, Philosophy 353, Study of Ethics 269

277. Looking Inside the Disordered Brain. NS One course. C-L: see Psychology 277

280. Social and Affective Neuroscience. CCI, NS, SS One course. C-L: see Psychology 280

281. Neuroscientific Approaches to Social Behavior. NS, R One course. C-L: see Psychology 281
290S. Special Topics in Neuroscience. Topics vary by semester. Instructor: Staff. One course.

301L. Electrophysiology. One course. C-L: see Biomedical Engineering 301L


360. Drugs, Brain, and Behavior. NS One course. C-L: see Pharmacology and Cancer Biology 360; also C-L: Psychology 274

363. Behavior and Neurochemistry. NS One course. C-L: see Psychology 273

366S. Behavioral Neuroendocrinology. NS, W One course. C-L: see Psychology 376S

373. Behavioral Neuroimmunology: Brain and Behavior in Health and Disease (B). NS One course. C-L: see Psychology 279

376. Contemporary Neuroscience Methods. NS Examine the wide spectrum of methods commonly used in the field. Techniques range from molecular/genetic to electrophysiology and whole brain imaging. Includes interaction with scientist practicing the technique, virtual lab experiment and data analysis. Minimum prerequisites: Neuroscience 193FS or Neuroscience 101 (Psychology 106) or Biology 201L or consent of the instructor. Instructor: Roberts. One course. C-L: Psychology 313

378. Perception and the Brain. NS, R One course. C-L: see Psychology 308


382. Functional Neuroimaging. NS, R One course. C-L: see Psychology 303

383. Brain Waves and Cognition. NS, R One course. C-L: see Psychology 302

385L. Integrative Neuroscience Laboratory. NS, R, W Discovery learning aimed at a single neuroscience research question across multiple levels of analysis (molecular, cellular and behavioral). Experimentation will occur in a model organism (Drosophila) and may include PCR, live cell imaging and behavioral conditioning experiments. Research teams will generate novel scientific data and discuss findings with faculty, post-docs and graduate students from across the neuroscience community. Minimum Prerequisites: Neuroscience 193 or 101, and Biology 201L or 202L, and Neuroscience 201. Instructor: Roberts. One course.

390S. Special Topics in Neuroscience. Topics vary by semester. Instructor consent required to assure sufficient background knowledge. Instructor: Staff. One course.

421S. Biology of Nervous System Diseases. NS One course. C-L: see Biology 421S; also C-L: Psychology 477S

422. Neural Circuits and Behavior. NS Perception and behavior at the level of single neurons and neural circuits. Operation of neural circuits, and experimental and theoretical approaches used to unravel them. Progress from sensory systems (how sensory stimuli are represented) to motor systems (how behavioral output is controlled) to "decision-making circuits" in the brain. A range of model systems including electric fish, songbirds, squids, fruitfly, c. elegans, mice, primates etc. Design principles and constraints that have shaped the nervous system during evolution will be discussed. Prereq: Bio 101L or Bio 102L and one course in Neurosciences. Instructor: Bhandawat. One course. C-L: Biology 422

427S. Current Topics in Sensory Biology. NS One course. C-L: see Biology 427S

451S. Emotions and the Brain. NS One course. C-L: see Psychology 451S
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit(s)</th>
<th>Pre-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>461S</td>
<td>Neurobiology of Learning and Memory</td>
<td>NS</td>
<td>One course. C-L: see Psychology 461S</td>
</tr>
<tr>
<td>465S</td>
<td>The Neuroscience of Stress</td>
<td>NS</td>
<td>One course. C-L: see Psychology 475S</td>
</tr>
<tr>
<td>471S</td>
<td>Reward and Addiction</td>
<td>NS</td>
<td>One course. C-L: see Psychology 471S; also C-L: Pharmacology and Cancer Biology 471S</td>
</tr>
<tr>
<td>472S</td>
<td>Neuroscience and Cognitive Aging</td>
<td>NS, R, W</td>
<td>One course. C-L: see Psychology 372S</td>
</tr>
<tr>
<td>473S</td>
<td>The Neurobiology of the Pain System: Its Function and Dysfunctions</td>
<td>NS, R, W</td>
<td>One course. C-L: see Psychology 473S</td>
</tr>
<tr>
<td>499S</td>
<td>Current Research in Neuroscience</td>
<td>EI, NS, R, W</td>
<td>A formal research and training component of the Trinity College Forum in Neuroscience that includes review of directed reading and research in both theoretical and experimental neuroscience. Emphasis on the development of the ability to critically evaluate empirical research and to construct mathematical or deductive/inductive models. Final project includes preparation of a formal research proposal and a review of the role of ethics in science. Enrollment in an independent study and consent of instructor required. Instructor: Meck. One course. C-L: Psychology 499S</td>
</tr>
<tr>
<td>501S</td>
<td>Cognitive and Neurolinguistics</td>
<td>NS, R, SS</td>
<td>One course. C-L: see Linguistics 501; also C-L: Russian 510</td>
</tr>
<tr>
<td>502</td>
<td>Neural Signal Acquisition</td>
<td>NS</td>
<td>One course. C-L: see Biomedical Engineering 502</td>
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<tr>
<td>503</td>
<td>Computational Neuroengineering</td>
<td>NS</td>
<td>One course. C-L: see Biomedical Engineering 503</td>
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<tr>
<td>507</td>
<td>Neuronal Control of Movement</td>
<td>NS</td>
<td>One course. C-L: Biomedical Engineering 517</td>
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<tr>
<td>510</td>
<td>Brain and Language</td>
<td>NS</td>
<td>One course. C-L: see Linguistics 510; also C-L: Psychology 575</td>
</tr>
<tr>
<td>511</td>
<td>Theoretical Electrophysiology</td>
<td>NS</td>
<td>One course. C-L: see Biomedical Engineering 511L</td>
</tr>
<tr>
<td>515</td>
<td>Neural Prosthetic Systems</td>
<td>NS</td>
<td>One course. C-L: see Biomedical Engineering 515</td>
</tr>
<tr>
<td>517S</td>
<td>From Neurons to Development: The Role of Epigenetics in Plasticity</td>
<td>NS</td>
<td>One course. C-L: see Biology 517S</td>
</tr>
<tr>
<td>521S</td>
<td>Visual Processing</td>
<td>NS</td>
<td>One course. C-L: see Biology 521S</td>
</tr>
<tr>
<td>523</td>
<td>Development of Neural Circuits</td>
<td>NS</td>
<td>One course. C-L: see Biology 523</td>
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<tr>
<td>533</td>
<td>Essentials of Pharmacology and Toxicology</td>
<td>NS</td>
<td>One course. C-L: see Pharmacology and Cancer Biology 533</td>
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<tr>
<td>555S</td>
<td>Topics in Philosophy of Mind</td>
<td>CZ, R, STS, W</td>
<td>One course. C-L: see Philosophy 555S</td>
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<tr>
<td>560</td>
<td>Molecular Basis of Membrane Transport</td>
<td>NS</td>
<td>One course. C-L: see Biomedical Engineering 560</td>
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<tr>
<td>584S</td>
<td>Hormones, Brain, and Cognition</td>
<td>NS, R</td>
<td>One course. C-L: see Psychology 684S</td>
</tr>
<tr>
<td>590S</td>
<td>Special Topics in Neuroscience</td>
<td>NS</td>
<td>One course. C-L: see Psychology 682S</td>
</tr>
<tr>
<td>669S</td>
<td>Affective Neuroscience</td>
<td>NS</td>
<td>One course. C-L: see Psychology 669S</td>
</tr>
<tr>
<td>672S</td>
<td>Cognitive Neuroscience of Memory</td>
<td>NS</td>
<td>One course. C-L: see Psychology 672S</td>
</tr>
<tr>
<td>682S</td>
<td>Exploring the Prefrontal Cortex</td>
<td>NS, R, W</td>
<td>One course. C-L: see Psychology 682S</td>
</tr>
<tr>
<td>685S</td>
<td>Biological Pathways to Psychopathology</td>
<td>NS</td>
<td>One course. C-L: see Psychology 685S</td>
</tr>
</tbody>
</table>

**THE MAJOR**

For the B.S. Degree

*Requirements:* 7 co-requisites and 10 courses in major (8 of 10 courses must be 200-level or higher, 1 or more courses must be from the 375-389 range - Laboratory and Methods courses, and 1 or more courses must be from 400-level or higher-Seminars).

*Co-requisites (7 courses required).* Foundational coursework is required in the disciplines of Biology, Chemistry, Mathematics, and Physics that may be completed concurrently with courses in the major. In Biology, one of the two 'gateway' courses, Biology 201L-Gateway to Biology: Molecular Biology or Biology
202L-Gateway to Biology: Evolution & Genetics, will satisfy the pre-/co-requisite for the Neuroscience major. Please note that AP credit will not be granted for the Biology pre-/co-requisite. In Chemistry, students have two options that reflect the diverse interests of neuroscience majors across levels of analysis. One option is completion of sufficient general chemistry (Chemistry 101DL-Core Concepts in Chemistry or Chemistry 110DL-Honors Chemistry: Core Concepts in Context) to then complete one term of organic chemistry (Chemistry 201DL-Organic Chemistry). The second option is completion of one term of general chemistry (Chemistry 101DL-Core Concepts in Chemistry or Chemistry 110DL-Honors Chemistry: Core Concepts in Context), without the added requirement of organic chemistry. Students who elect this second Chemistry option must also complete one term of Computer Programming (Engineering 110L-Computational Methods in Engineering or Computer Science 101-Program Design and Analysis I). For students who are especially interested in molecular/cellular neuroscience, we encourage the first option. The second option should appeal to students who are interested in computational, cognitive or theoretical neuroscience. In Mathematics, two terms of calculus are required (Mathematics 111L-Laboratory Calculus I and Mathematics 122-Introductory Calculus II or Mathematics 112L-Laboratory Calculus II or their equivalent). If a student has AP credit for Mathematics 111, then Mathematics 122L-Introductory Calculus II with Application may be taken to satisfy the Mathematics pre-/co-requisite. In Physics, two terms of calculus-based physics are required, which may be satisfied by one of the following two sequences or their equivalent: Physics 141L-General Physics I followed by Physics 142L-General Physics II, or Physics 151L General Physics: Mechanics followed by Physics 152L General Physics: Electricity and Magnetism.

**Gateway courses** (1 course required). One of three "gateway" courses should be the first of the 10 courses that a student would complete in fulfillment of the Major in Neuroscience. For students admitted into the "Exploring the Mind" Focus Program, Neuroscience 193FS-Neurobiology of Mind or Neuroscience 195FS-Neuroeconomics: the Neurobiology of Decision Making will satisfy this gateway requirement. For all other students, NEUROSCI 101-Biological Basis of Behavior: Introduction and Survey is the gateway to the Major.

**Core courses** (3 courses required). There are three core courses in the major in Neuroscience that reflect the three levels of inquiry described above: Neuroscience 223-Cellular and Molecular Neurobiology; Neuroscience 201-Fundamentals of Neuroscience, which addresses neural circuits and systems, and either Neuroscience 212-Introduction to Cognitive Neuroscience, which focuses on human cognition, or Neuroscience 211-Brain and Behavior, which focuses on animal models that are used to study behavioral systems.

**Statistics** (1 course required). Neuroscience majors are required to master the elements of statistical design and practice that support the analysis and interpretation of neuroscientific data. Any one of the following courses will satisfy this curricular requirement: Statistics 101-Data Analysis and Statistical Inference, Statistics 102-Introductory Biostatistics, Statistics 111-Probability and Statistical Inference, Statistics 130-Probability and Statistics in Engineering, or Psychology 201-Applications of Statistical Methods in Psychology.

**Electives** (5 courses required). Neuroscience majors are required to explore the breadth and depth of the field by fulfilling five course requirements in Neuroscience, with at least one elective being a seminar course or a term of independent study. Seminar, small-lecture, and laboratory elective offerings are drawn from a dynamic list of approximately 50 courses that are offered by five Departments in Trinity College, as well as Departments in the School of Medicine and the Pratt School of Engineering. The Capstone requirement (see below) will be fulfilled within the elective offerings.

**Capstone** (1 experience required). Neuroscience majors are required to complete a capstone experience that facilitates integration of knowledge and understanding across levels of analysis. There are three means by which this capstone requirement may be satisfied. A student may complete two terms of Independent Study working under the mentorship of a faculty-investigator on a single project that would carry-over across these two terms. The second means is completion of one of the laboratory (carrying the L designation) or
methods courses in Neuroscience. The third means for fulfilling the capstone requirement is completing Neuroscience 499S-Current Research in Neuroscience. This seminar course is also a requirement for Graduation with Distinction in Neuroscience (see below).

**For the BS2 Degree for BME Majors in the Pratt School of Engineering**

**Requirements:** 7 co-requisites and 10 courses in major (8 of 10 courses must be 200-level or higher, 1 or more courses must be from the 375-389 range - Laboratory and Methods courses, and 1 or more courses must be from 400-level or higher-Seminars. All of the requirements for the BS degree listed above must be met with the following changes; Biomedical Engineering 301L/Neuroscience 301L Electrophysiology is required, the recommended course in statistical sciences is (Statistics 130 Probability and Statistics in Engineering). Of the 4 additional Neuroscience electives, no more than 2 electives may be cross-listed between Neuroscience and Biomedical Engineering, and none of the 4 may count toward fulfillment of requirements for the BME major. Allied courses do not count, except by permission of the Director of Undergraduate Studies in Neuroscience.

**For the A.B. Degree**

**Requirements:** 6 co-requisites and 10 courses in major (8 of 10 courses must be 200-level or higher, 1 or more courses must be from the 375-389 range - Laboratory and Methods courses, and 1 or more courses must be from 400-level or higher-Seminars).

**Co-requisites** (6 courses required). Foundational coursework is required in the disciplines of Biology, Chemistry, Mathematics, and Physics that may be completed concurrently with courses in the major for completion of the A.B. degree. In Biology, one of the two 'gateway' courses, Biology 201L-Gateway to Biology: Molecular Biology or Biology 202L-Gateway to Biology: Evolution & Genetics, will satisfy the pre-/co-requisite for the Neuroscience major. Please note that AP credit will not be granted for the Biology pre-/co-requisite. In Chemistry, students are required to complete one term of general chemistry (Chemistry 101DL-Core Concepts in Chemistry or Chemistry 110DL-Honors Chemistry: Core Concepts in Context), without the added requirement of organic chemistry. Students must also complete one term of Computer Programming (Engineering 110L-Computational Methods in Engineering or Computer Science 101-Program Design and Analysis I). In Mathematics, one term of calculus is required (Mathematics 111L-Laboratory Calculus I). In Physics, two terms of calculus-based physics are required, which may be satisfied by one of the following two sequences: Physics 141L-General Physics I followed by Physics 142L-General Physics II, or Physics 151L General Physics: Mechanics followed by Physics 152L General Physics: Electricity and Magnetism.

**Gateway courses** (1 course required). One of three ‘gateway’ courses should be the first of the 10 courses that a student would complete in fulfillment of the Major in Neuroscience. For students admitted into the “Exploring the Mind” Focus Program, Neuroscience 193FS-Neurobiology of Mind or Neuroscience 195FS-Neuroeconomics: the Neurobiology of Decision Making, will satisfy this gateway requirement. For all other students, Neuroscience101-Biological Basis of Behavior: Introduction and Survey is the gateway to the Major.

**Core courses** (3 courses required). There are three core courses in the major in Neuroscience that reflect the three levels of inquiry described above: Neuroscience 223-Cellular and Molecular Neurobiology; Neuroscience 201-Fundamentals of Neuroscience, which addresses neural circuits and systems, and either Neuroscience 212-Introduction to Cognitive Neuroscience, which focuses on human cognition, or Neuroscience 211-Brain and Behavior, which focuses on animal models that are used to study behavioral systems.

**Statistics** (1 course required). Neuroscience majors are required to master the elements of statistical design and practice that support the analysis and interpretation of neuroscientific data. Any one of the following courses will satisfy this curricular requirement: Statistics101-Data Analysis and Statistical Inference, Statistics 102-Introductory Biostatistics, Statistics 111-Probability and Statistical Inference,
Statistics 130-Probability and Statistics in Engineering, or Psychology 201-Applications of Statistical Methods in Psychology.

Electives (5 courses required). Neuroscience majors are required to explore the breadth and depth of the field by fulfilling five course requirements in Neuroscience, with at least one elective being a seminar course or a term of independent study. Furthermore, for the A.B. degree, students must explore the broader impact of Neuroscience on society. To do so, candidates for the A.B. degree must complete a course on ethical applications in Neuroscience, Neuroscience 267-Neuroethics, or one of the following two course in Philosophy: Philosophy 212-Philosophy of Mind or Philosophy/Neuroscience 555S-Topics in Philosophy of Mind. To complete the elective requirements for the A.B. degree, students may choose from a variety of seminar, small-lecture, and laboratory offerings that are drawn from a dynamic list of more than 50 courses offered by five Departments in Trinity College, as well as Departments in the School of Medicine and the Pratt School of Engineering.

Capstone (1 experience required). Neuroscience majors are required to complete a capstone experience that facilitates integration of knowledge and understanding across level of analysis. There are three means by which this capstone requirement may be satisfied. A student may complete two terms of Independent Study working under the mentorship of a faculty-investigator on a single project that would carry-over across these two terms. The second means is completion of one of the laboratory (carrying the L designation) or methods courses in Neuroscience. The third means for fulfilling the capstone requirement is completing Neuroscience 499S-Current Research in Neuroscience. This seminar course is also a requirement for Graduation with Distinction in Neuroscience (see below).

Please note that no more than two of the ten courses required for the Major may be used to satisfy the requirements of another Major, Minor or Certificate.

Graduation with Distinction in Neuroscience

Neuroscience majors with a GPA of 3.5 or above in Neuroscience courses (not including pre-/co-requisites), may apply for Graduation with Distinction in Neuroscience. They must also maintain at least this level of performance throughout the remainder of their studies at Duke. Candidates for Distinction will conduct and complete an original research project carried out as a two-term Research Independent Study in Neuroscience. A substantial paper (thesis), usually based on empirical research and written in publication style, and a scientific poster are required. In addition, an oral defense of the thesis will be evaluated by a Graduation with Distinction in Neuroscience committee comprising three members. One member of your committee (either your mentor or one of your two additional committee members) must be a neuroscience faculty member from an Arts and Sciences department, or be a faculty member who teaches regularly in Undergraduate Neuroscience. One member of your committee can be a postdoctoral fellow or an advanced graduate student who has completed her/his preliminary exam. Both the Director of Undergraduate Studies and the Associate Director are available as committee members and should be consulted if there is a question about committee membership.

Either following completion of the two-terms of independent study or, more commonly, concurrent with completion of the second-term of independent study, students aspiring to Graduate with Distinction in Neuroscience will take Neuroscience 499S-Current Research in Neuroscience. This spring-term seminar course includes review of directed reading and research in both theoretical and experimental neuroscience, as well as discussion of the students' independent study projects. Emphasis is placed on the development of the ability to critically evaluate empirical research and to construct mathematical or deductive/inductive models. The final project in this course includes preparation of a formal research proposal and a review of the role of ethics in science.

Evaluation of the student for Distinction is based on the written thesis, an oral poster presentation and the oral examination before the Distinction committee. The Distinction committee will then decide whether the overall performance of the candidate qualifies for Graduation with Distinction in Neuroscience (only one
THE MINOR

Requirements for students in Trinity College of Arts and Sciences: 5 Neuroscience courses.

• The minor in Neuroscience for students in Trinity College requires a minimum of five Neuroscience courses from gateway, core and elective course offerings. Four of the courses must be 200-level or higher and at least two courses must be from the core or gateway offerings (with no more than one gateway course counting).

Please note that no more than two of the five courses required for the Minor may be used to satisfy the requirements of another Major or Minor.

Requirements for Biomedical Engineering Majors in the Pratt School: 5 Neuroscience courses.

The minor in Neuroscience for Biomedical Engineering majors in the Pratt School requires a minimum of five Neuroscience courses from gateway, core and elective course offerings. For Biomedical Engineering majors that were admitted into the "Exploring the Mind" Focus Program, Neuroscience 193FS-Neurobiology of Mind or Neuroscience 195FS-Neuroeconomics: the Neurobiology of Decision Making will satisfy this gateway requirement. For all other Biomedical Engineering students, Neuroscience 101-Biological Basis of Behavior: Introduction and Survey is the gateway to the Minor in Neuroscience. Next, the BME major will complete Neuroscience 201-Fundamentals of Neuroscience (which also satisfies the life science elective requirement for the BME major) or one of the other core courses in Neuroscience (Neuroscience 211, 212, 223). The Biomedical Engineering major is also required to complete Biomedical Engineering 301/Neuroscience 301-Electrophysiology for the Minor in Neuroscience. Finally, completion of the Minor requires two Neuroscience electives that are not cross-listed in Biomedical Engineering and do not also satisfy a requirement for the Biomedical Engineering Major.

Nonlinear and Complex Systems (NCS)

The Center for Nonlinear and Complex Systems (CNCS) is an interdisciplinary organization at Duke that brings together researchers and teachers with interests in nonlinear dynamics, chaos, complex systems and related topics. The center provides an enrichment course, Nonlinear and Complex Systems 501, that encourages students to explore and learn about diverse aspects of the field, as applied broadly in science, engineering, mathematics, and social sciences. A large selection of other courses is also relevant to the center. Students should contact the director for additional information.


Pathology

For courses in pathology, see Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates on page 440.

Pharmacology

For courses in pharmacology, see Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates on page 440.

Persian

For courses in Persian, see Slavic and Eurasian Studies on page 595.

Philosophy (PHIL)

Rosenberg, Chair; Janiak, Director of Undergraduate Studies: Professors Brandon, Buchanan, Flanagan, Gillespie (political science), Grant (political science), Hoover, McShea (biology), Neander, Norman, Purves (neurobiology), Rosenberg, Sinnott-Armstrong, Sreenivasan, and Wong; Associate Professors Ferejohn, and Janiak; Assistant Professor Bernstein; Visiting Assistant Professor Wilson; Professors Emeriti Golding and
A major or a minor is available in this department.

The undergraduate program in the Department of Philosophy acquaints students with the content and the structure of philosophical theory in various areas. Classes encourage discussion so that students can engage actively in the philosophical examination of problems.

Course offerings fall into two general categories: the systematic and the historical. In a systematic treatment, the organization of a course reflects the problems presented by the subject matter of that course, as in logic, ethics, and metaphysics. Historical courses direct attention more to the order of development in the thought of a particular philosopher (Plato, Aristotle, Kant) or in a historical period. In all courses, reading of the works of philosophers acquaints the students with the important and influential contributions to the definition and solution of philosophical issues.

The problems raised in philosophy about various fields of the arts and sciences involve questions that these particular disciplines typically neglect. In the consideration of such problems, students will acquire some understanding and perspective of the major areas of the human intellectual endeavor. Philosophical comprehension is in this way an essential part of a complete education.

Philosophy provides a sound preparation for the demands of many professions. For example, precision of argument and broad acquaintance with intellectual traditions emphasized in philosophy form an excellent basis for the study of law.

Only one course from among Philosophy 101, 102, 103S, and 104S may be taken for credit. These courses are not open to juniors and seniors.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

101. Introduction to Philosophy. CZ, W Examination of problems in philosophy; emphasis on metaphysics and theory of knowledge. Instructor: Staff. One course.

102. Introduction to Philosophy. CZ, EI, W Examination of problems in philosophy; emphasis on ethics and value theory. Instructor: Staff. One course.

103S. Introduction to Philosophy. CZ, W Philosophy 101 conducted as a seminar. Instructor: Staff. One course.

104S. Introduction to Philosophy. CZ, EI, W Philosophy 102 conducted as a seminar. Instructor: Staff. One course.

123FS. Introduction to Political Philosophy. EI, SS One course. C-L: see Political Science 175FS; also C-L: Ethics Courses Offered Through Other Departments

129FS. Acting Globally, Thinking Normatively. EI, SS Examines how normative ethical & political theories might help us think more clearly about rights, obligations, and justice in a global context. Also looks into the limitations of some of these theories (originally developed for more local contexts). Particular focus on ethical challenges raised by international commerce. Do multinational corporations have obligations to maintain standards over and above those required by local regulations? How do we determine what these obligations and standards are? What duties do citizens and consumers in a corporation’s home country have to compel more responsible corporate behavior abroad? Instructor: Norman. One course. C-L: Study of Ethics 129FS

150. Logic. CZ The conditions of effective thinking and clear communication. Examination of the basic principles of deductive reasoning. Instructor: Staff. One course.

186FS. Focus Program Seminar: Topics in Philosophy. Topics vary each semester offered. Open only to students in the Focus program. Consent of Instructor required. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Philosophy. CCI Topics differ by section. Instructor: Staff. One course.
195FS. The Human Enhancement Project: Ethical Issues in Genomics. CZ, EI, STS Exploration of controversial applications of genome science-based technologies to human beings, focusing on debate about the use of such technologies to enhance human capacities and characteristics. Overview of current and anticipated prospects for biomedical enhancement of humans, eugenics movements of late 19th to mid-20th centuries, critical examination of chief arguments in favor of and against 'the enhancement project,' critical exploration of policy options for controlling development and employment of enhancement biotechnologies. Instructor: Buchanan. One course. C-L: Genome Sciences and Policy

197FS. Evolution and Human Nature. CZ, EI Examination of attempts to apply evolutionary theory to human behavior/human social systems (now called human sociobiology). Readings from Charles Darwin to mid 20th Century with selections from ethologist Konrad Lorenz and evolutionary biologist Theodosius Dobzhansky. Also studies contemporary sociobiology, ending with critiques of human sociobiology, especially nature/nurture controversy. Open only to students in the Focus program. Consent of instructor required. Instructor: Brandon. One course.

198FS. Puzzles of the Mind: Humans, Animals, and Machines. CZ The nature and constitution of mind in humans, animals, and robots. Relation between body/mind and consciousness/cognition. Related philosophical problems about the mind: subjectivity, skepticism about other minds, relation of language to mind, and the effects of brain lesions on mental life. Readings from philosophy, psychology, neuropsychology, cognitive ethology, and artificial intelligence. Open only to students in the Focus Program. One course.

199FS. Science, Philosophy, and Religion: The Faces of Science. CZ, STS Transformation of the shifting boundaries between science and philosophy, science and religion. From the scientific revolution in the seventeenth century to the twenty-first century. Open only to students in the Focus Program. Instructor: Janiak. One course.

201. History of Modern Philosophy. CCI, CZ Seventeenth and eighteenth century attempts to address philosophical problems concerning knowledge and the nature of reality in Descartes, Spinoza, Malebranche, Leibniz, Locke, Berkeley, Hume, and Kant. Instructor: Flanagan, Janiak, or Rosenberg. One course.

202. Aesthetics: The Philosophy of Art. ALP, CZ The concept of beauty, the work of art, the function of art, art and society, the analysis of a work of art, criticism in the arts. Instructor: Ward. One course. C-L: Visual and Media Studies 299

203. History of Ancient Philosophy. CCI, CZ The pre-Socratics, Socrates, Plato, Aristotle, and post-Aristotelian systems. Not open to students who have taken Classical Studies 93 or Philosophy 93. Instructor: Ferejohn or staff. One course. C-L: Classical Studies 271

204. Foundations of Scientific Reasoning. CZ, STS Introduction to inductive logic, probability, and causality. Probability as a measure of belief, probability as frequency, philosophical problem of induction, determinism and indeterminism in causation. General versus particular causal claims. Instructor: Brandon or Rosenberg. One course. C-L: Information Science and Information Studies

206. Philosophy of Law. CZ, EI Natural law theory, legal positivism, legal realism, the relation of law and morality. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments

207. Political and Social Philosophy. CZ, EI Basic ethical concepts involved in political organization and in a variety of periods, such as equality, human dignity and rights, source of political obligation, political education. Discussion of contemporary problems. Examination of contemporary viewpoints such as liberalism and feminism. Instructor: Wong. One course. C-L: Ethics Courses Offered Through Other Departments

208. Introduction to the Evolution of Human Culture, Behavior, and Institutions. CCI, NS, SS Interdisciplinary examination of philosophical foundations, anthropological framework, psychological/social ramifications of long term interaction of hereditary and non-inheritary traits of Homo sapiens with its original and later environments, including those created by human culture. Instructor: Rosenberg. One course. C-L: Evolutionary Anthropology 280
209. Philosophy of Language. CZ A philosophical analysis of problems arising in the study of language and symbolism. Topics include: theories of language, the nature of signs and symbols, theories of meaning, types of discourse (scientific, mathematical, poetic), definition, ambiguity, metaphor. Instructor: Staff. One course. C-L: Linguistics 209

210. Knowledge and Certainty. CZ, R Problems in the theory of knowledge: conditions of knowledge, skepticism, perception, memory, induction, knowledge of other minds, and knowledge of necessary truths. Instructor: Bernstein or Ferejohn. One course. C-L: Information Science and Information Studies

211. Appearance and Reality. CZ, R Problems in metaphysics: theories of existence, substance, universals, identity, space, time, causality, determinism and action, and the relation of mind and body. Instructor: Bernstein or Ferejohn. One course.

212. Philosophy of Mind. CZ, R Such topics as mind and body, the nature of thought, perception, consciousness, personal identity, and other minds. The relevance of cognitive psychology, neuroscience, and computer science to the philosophy of mind. Instructor: Flanagan or Neander. One course. C-L: Linguistics 208, Visual and Media Studies 302, Information Science and Information Studies

215. Applied and Environmental Ethics. CZ, EI, STS A critical examination of ethical dimensions of several contemporary individual and political normative problems, including abortion, affirmative action, national and international economic redistribution, and the environmental impact of economic changes and political decisions. Instructor: Staff. One course. C-L: Study of Ethics 265, Marine Science and Conservation

216. Problems in Ethical Theory. CZ, EI The nature of morality, amorality, utilitarianism, and deontology. Both historical and contemporary readings. Instructor: Flanagan or Wong. One course.

217. Ancient and Modern Ethical Theory. CCI, CZ, EI Major ethical theories both classical and modern; virtue theories and rule-based theories. Readings from Plato and Aristotle with a variable comparative component, Chinese, Indian, Buddhist depending on the instructor, as well as Kant and Mill. Open only to undergraduates. Instructor: Flanagan or Wong. One course. C-L: Ethics Courses Offered Through Other Departments

218. Philosophical Issues in Medical Ethics. CZ, EI, STS Ethical issues arising in connection with medical practice and research and medical technology. Definition of health and illness; experimentation and consent; genetic counseling and biological engineering; abortion, contraception, and sterilization; death and dying; codes of professional conduct; and the allocation of scarce medical resources. Prerequisite: for freshmen, previous philosophy course and consent of instructor. Instructor: Staff. One course. C-L: Genome Sciences and Policy, Ethics Courses Offered Through Other Departments


220. Late Medieval and Renaissance Philosophy. CCI, CZ Study of conceptual shifts from the Middle Ages to the Renaissance and Early Modern period stressing impact of Muslim philosophy on the Christian west. Revival of ancient thought, scientific developments, European discovery of New World and impact on political philosophy. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 355


222. Philosophical Issues in Feminism. CZ, EI Issues in political and moral philosophy in their bearing on feminist concerns, including political equality and rights, preferential treatment, feminist and nonfeminist
critiques of pornography, and the morality of abortion. Instructor: Wilson or Wong. One course. C-L: Women's Studies 222, Women's Studies

222S. Philosophical Issues in Feminism. Seminar version of Philosophy 222. Instructor: Wilson or Wong. One course. C-L: Women's Studies 222S


226. Philosophy of Sport. CZ, EI Play, sport, and game in western culture: sport and leisure, sport vs. athletics, discipline of the body, spectatorship, the amateur and the professional. Course deals with ethical context and implications of competition and the urge to win, with sport as rule-governed behavior. Also examines significance of infractions of the rules, associated penalties, and ethical issues like cheating, performance-enhancing substances in sport, concept of the "team" and ideals of individual performance. Instructor: Ward. One course.

229. Issues in the History of Philosophy. CZ Topics in one or more periods in the history of philosophy (e.g., ancient, medieval, or modern) such as skepticism, mind-body relations, the nature of persons and personal identity, the relation between physics and metaphysics, causation and explanation. Instructor: Janiak or staff. One course.

230. Philosophy of Religion. CZ, EI, R Justification for and content of religious belief. Topics considered include arguments for the existence of God, the problem of evil, religious diversity, and the importance of religion for morality. Instructor: Staff. One course.


236A. The Birth of Reason in Ancient Greece. CCI, CZ, EI A study of the Classical Greeks' pronounced emphasis on the rational aspect of human nature, which enabled them to lay the foundations for subsequent intellectual developments in western thought. The Athenian Empire as a case study for an investigation of the five major ancient ethical systems. Taught only in the Duke Greece Summer Study Abroad program. Instructor: Ferejohn. One course. C-L: Classical Studies 272A

237A. Political Philosophy of Globalization. CCI, CZ, EI, SS Examination of the claim made for and against the expansion of free exchange on economic, political, and cultural institutions and conditions, from the perspectives of competing ethical theories and political philosophies. Taught only in the Duke in Geneva Summer Study Abroad program. Instructor: Rosenberg. One course. C-L: Political Science 297A, Public Policy Studies 204A

246. Prisoner's Dilemma and Distributive Justice. EI, SS One course. C-L: see Political Science 331; also C-L: Economics 361, Information Science and Information Studies, Ethics Courses Offered Through Other Departments

249. Introduction to Cognitive Neuroscience (B, C). NS One course. C-L: see Psychology 257; also C-L: Neuroscience 212

250. Symbolic Logic. CZ Detailed analysis of deduction and of deductive systems. Open to sophomores by consent of instructor. Instructor: Brandon or staff. One course. C-L: Linguistics 250, Information Science and Information Studies

252. Philosophy and Neuroscience. SS Explores relevance of recent findings in neuroscience (and cognitive neuroscience) to traditional philosophical areas of inquiry. Also addresses philosophical issues regarding practice of neuroscience and relation to other disciplines/sciences. Possible topics include: epistemology of neuroscience data, relation between neuroscience/psychology, neurolinguistics, neuroethics, neural representations, neuroscience & consciousness. Instructors: Flanagan or Neander. One course. C-L: Neuroscience 252

262. Human Rights in Theory and Practice. CCI, CZ, EI, SS One course. C-L: see Political Science 388; also C-L: Public Policy Studies 231, Documentary Studies, Global Health, Ethics Courses Offered Through Other Departments

263. Chinese Philosophy. CCI, CZ, EI The major schools of classical Chinese philosophy: Confucianism, Moism, and Taoism. Confucianism on the ideals of harmonious human life; Moism's charge that Confucianism encourages an unjustified partiality toward the family; Taoism's claim that no logically consistent set of doctrines can articulate the "Truth." Debates and mutual influences among these philosophies. Comparisons between Chinese and Western cultures with respect to philosophical issues and solutions. Instructor: Wong. One course. C-L: Ethics Courses Offered Through Other Departments


274S. Feminist Classics. ALP, CCI One course. C-L: see Literature 465S; also C-L: Women's Studies 465S, English 488S

281. Global Bioethics. CZ, EI Examines various problems of international ethics, discussing them in the context of general ethical theory and then in the specific context of various controversies concerning the conduct of clinical trials in developing countries. Problems include moral universalism and relativism; poverty relief and international aid; international health disparities; human rights; and exploitation. Instructor: Sreenivasan. One course.


283. The Existentialist Imagination. ALP, CZ, EI One course. C-L: see German 385; also C-L: Literature 242

283D. The Existentialist Imagination. ALP, CZ, EI One course. C-L: see German 385D; also C-L: Literature 242D
286. Marx, Nietzsche, Freud. CCI, CZ, SS One course. C-L: see German 380; also C-L: Literature 280, Political Science 378, Marxism and Society

286D. Marx, Nietzsche, Freud. CCI, CZ, EI, SS One course. C-L: see German 380D; also C-L: Literature 280D, Political Science 378D

290. Special Topics in Philosophy. Instructor: Staff. One course.

290S. Seminars in Philosophy. CZ Instructor: Staff. One course.

291. Fall Independent Study. Individual reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to highly qualified students in the junior and senior year with consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

293. Fall Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing a significant analysis and interpretation of a previously approved topic. Open only to highly qualified students in the junior and senior year with consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

313S. Philosophy of Mathematics. CZ Survey of mathematical thought including the nature of infinity, Platonism, constructivism, and the foundational crisis of the early twentieth century. Prerequisite: one course in calculus or logic or philosophy; or consent of instructor. Instructor: Staff. One course.

314. Philosophy of Biology. CZ, NS, R, STS An introduction to conceptual and methodological issues raised in contemporary biology, including teleology, reductions, the units of selection, and the structure of evolutionary theory. Prerequisites: Biology 25. Instructor: Brandon or Rosenberg. One course. C-L: Biology 255, Genome Sciences and Policy, Marine Science and Conservation

316. HAPPINESS AND FREEDOM. CZ, EI Analyzes concepts central to moral & political philosophy: well-being or notion of a good life (happiness being one view of a good life), personal autonomy or self-rule, & freedom. Also looks at moral dilemmas framed as conflicts between two or more of these values. Instructor: Hawkins. One course.


331. Kant. CZ, EI Immanuel Kant's philosophy, its background and influence. His early work in metaphysics and ethics and his mature philosophy of the 'Critical Period' in which he wrote The Critique of Pure Reason, The Critique of Practical Reason, and The Critique of Judgment. (NOTE: No prerequisites, but helpful to take Philosophy 201 beforehand or concurrently.) Instructor: Janiak. One course.


338. Analytic Philosophy in the Twentieth Century. CZ, R An historical survey from Frege, Moore, Russell, and the logical positivism of the Vienna Circle to current developments. Philosophers covered include Wittgenstein, Ryle, Austin, Quine, and Davidson. Prerequisite: one philosophy course or consent of instructor. Instructor: Staff. One course.

345. The Philosophy and Methodology of Economics. EI, SS Economics as target discipline for philosophy of science. How economists investigate the economy; how economics produces knowledge/explanation/prediction/understanding. Classic contributions to economic methodology (John Stuart Mill, John Neville Keynes, Milton Friedman) & to Philosophy of Science (Carl Hempel, Karl Popper, Thomas Kuhn, Imre Lakatos) with case studies of applications to economic problems. Also recent topics at intersection of Philosophy & Economics (models, causality, reductionism, realism). Prerequisites: either one course in
philosophy and one course in economics; or Economics 205D, 210D, or 208D; or consent of instructor. Instructors: Hoover. One course. C-L: Economics 319

350. Logic and Its Applications. QS One course. C-L: see Mathematics 388; also C-L: Computer Science 288

353. Neuroethics. EI, NS, SS, STS One course. C-L: see Neuroscience 267; also C-L: Psychology 278, Study of Ethics 269

384AS. Classical and Contemporary Political Theory. EI, SS Examines crucial debates in classical and contemporary political thought, especially question of individual freedom, from end of English Civil War to present day. Equips students with theoretical expertise to make persuasive arguments of their own. Not open to students who have taken Philosophy 207, Political Science 223, or Political Science 224. If you take this course you cannot get credit for Philosophy 207, Political Science 223, or Political Science 224. Open only to students in the Duke in Oxford program. Consent of instructor required. Instructor: Stears. Two courses. C-L: Political Science 377S

385AS. Science, Ethics, and Society. CZ, EI Major recent public debates involving science, ethics, and policy in Britain and the United States. Exploration of issues ranging from stem cell research and global warming to health care policy and the teaching of evolution, as differently framed in the two countries. Examination of scientific, philosophical, and theological dimensions of such controversies, and how their manifestations in the public realm illuminate the relationships between scientists and laypersons, academic and popular culture, and public attitudes toward government and regulation. Open only to students in the Duke in Oxford program. Instructor consent required. Instructor: Ward. Two courses. C-L: Religion 282AS, Public Policy Studies 258S

390A. Duke-Administered Study Abroad: Advanced Special Topics in Philosophy. CCI Topics differ by section. Instructor: Staff. One course.

411. Philosophy of Time & Space. CZ Topics include: the possibility of time travel, the direction of time, comparisons between space and time, special relativity, and existence of the past and future. Instructor: Bernstein. One course.

465. Politics, Philosophy, and Economics Capstone. R, SS One course. C-L: see Political Science 449; also C-L: Economics 389

486S. Ordinary Language Philosophy. ALP One course. C-L: see Literature 486S; also C-L: English 485S

490S. Seminars in Philosophy. CZ Instructor: Staff. One course.

495S. Distinction Seminar Program. Original research project culminating in a 40-60 page thesis. Covers philosophy-specific research techniques as well as fundamentals of academic bibliographic research. Students share their research and receive/provide feedback. Instructor Consent Required. Instructor: staff. Half course.

502S. Comparative Ethics. CCI, CZ, EI Chinese and Western ethics compared, including conceptions of the virtues, the good life, right action, and the person. Instructor permission required. Instructor: Wong. One course.

503S. Contemporary Ethical Theories. CZ, EI, SS The nature and justification of basic ethical concepts in the light of the chief ethical theories of twentieth-century British and American philosophers. Consent of instructor required. Instructor: Flanagan or Wong. One course. C-L: Political Science 582S, Women's Studies

506S. Responsibility. CZ, EI The relationship between responsibility in the law and moral blameworthiness; excuses and defenses; the roles of such concepts as act, intention, motive, ignorance, and causation. Instructor: Staff. One course.

508S. Political Values. CZ, EI Analysis of the systematic justification of political principles and the political values in the administration of law. Instructor: Staff. One course.

510S. Adversarial Ethics. EI, SS Course attempts to identify general principles for designing the rules & regulations for deliberately adversarial institutions (ie; markets, electoral systems/legislatures, criminal law, warfare, sports). Looks at the special virtues of sportsmanship, professionalism, business ethics, etc. people are expected to follow within these hyper-competitive contexts. By examining ways the criteria for being an

Philosophy (PHIL) 481
ethical businessperson, lawyer, soldier, and so on may differ from the criteria for simply being an "ethical person", this course seeks to prepare students for future professional roles in these adversarial domains. No formal pre-requisites. Instructor: Norman. One course. C-L: Political Science 585S


536S. Hegel's Political Philosophy. EI, R, SS One course. C-L: see Political Science 676S; also C-L: German 575S

537S. Nietzsche's Political Philosophy. CZ, EI, SS One course. C-L: see Political Science 577S; also C-L: German 576S

538S. Problems in the Philosophy and Policy of Genomics. CZ, R, STS, W An examination of normative, methodological, and metaphysical issues raised by molecular biology, and its relations to other components of biology, including human behavior. Instructor: Rosenberg. One course. C-L: Genome Sciences and Policy, Information Science and Information Studies

539S. Race Theory: Biological Classification and Moral Implications. CZ, EI Topics to include: Biological classification theory and its applications to humans; The fit, or lack thereof, of biological categories and folk classifications of race; The historical/political motivations behind human racial classifications; The role of race in moral interactions; and The role of race in the construction of personal identity. Instructor: Brandon, Wilson. One course.

541S. Historical and Philosophical Perspectives on Science. CZ, STS An integrated introduction to the nature of science and scientific change, and its impact on society. Instructor: Staff. One course. C-L: Literature 521S, Women's Studies 541S, History 577S

551S. Epistemology. CZ, R Selected topics in the theory of knowledge; for example, conditions of knowledge, skepticism and certainty, perception, memory, knowledge of other minds, and knowledge of necessary truths. Instructor: Dretske or staff. One course.

552S. Metaphysics. CZ, R Selected topics: substance, qualities and universals, identity, space, time, causation, and determinism. Instructor: Bernstein or staff. One course.

555S. Topics in Philosophy of Mind. CZ, R, STS, W One or more topics such as mental causation, animal minds, artificial intelligence, and foundations of cognitive science. Includes relevant literature from fields outside philosophy (for example, psychology, neuroscience, ethology, computer science, cognitive science). Instructor: Dretske or Neander. One course. C-L: Neuroscience 555S

559. The Biological Basis of Music. One course. C-L: see Neurobiology 559; also C-L: Psychology 580

566S. Topics in Early Modern Political Thought from Machiavelli to Mills. CCI, R, SS One course. C-L: see Political Science 579S

570. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America. ALP, CCI, STS One course. C-L: see Information Science and Information Studies 670; also C-L: Literature 623, Genome Sciences and Policy

573S. Heidegger. CZ, EI, SS One course. C-L: see Political Science 581S

590. Special Topics in Philosophy Lecture. CZ Topics vary each semester. Instructor: Staff. One course.

590S. Special Fields of Philosophy Seminar (Topics). CZ Instructor: Staff. One course.

618S. Medieval Philosophy. CCI, CZ, R Study of Augustine against background of late ancient Roman philosophy, and Thomas Aquinas and others against background of medieval Muslim philosophy, in particular Avicenna and Averroes, and Neoplatonism. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 669S

625S. British Empiricism. CZ A critical study of the writings of Locke, Berkeley, or Hume with special emphasis on problems in the theory of knowledge. Instructor: Janiak. One course.
627S. Continental Rationalism. CZ A critical study of the writings of Descartes, Spinoza, or Leibniz with special emphasis on problems in the theory of knowledge and metaphysics. Instructor: Janiak. One course.

628S. Recent and Contemporary Philosophy. CZ A critical study of some contemporary movements, with special emphasis on analytic philosophers. Instructor: Staff. One course. C-L: Linguistics 528S

629S. Topics in the History of Philosophy. CZ Topics in one or more periods in the history of philosophy (for example, ancient, medieval, or modern) such as skepticism, mind-body relations, the nature of persons and personal identity, the relation between physics and metaphysics, causation and explanation. Instructor: Flanagan, Ferejohn, Janiak, or Rosenberg. One course.

631S. Kant's Critique of Pure Reason. CZ Instructor: Janiak. One course.

633S. Methodology of the Empirical Sciences. CZ, STS Recent philosophical discussion of the concept of a scientific explanation, the nature of laws, theory and observation, probability and induction, and other topics. Consent of instructor required. Instructor: Brandon or Rosenberg. One course.

634S. Problems in the Philosophy of Biology. NS, STS Selected topics, with emphasis on evolutionary biology: the structure of evolutionary theory, adaptation, teleological or teleonomic explanations in biology, reductionism and organicism, the units of selection, and sociobiology. Consent of instructor required. Instructor: Brandon, Neander, or Rosenberg. One course. C-L: Biology 555S

640S. Philosophical Psychology. CZ A study of recent work on the nature of the self and the nature and function of consciousness. Work from philosophy, psychology, cognitive neuroscience, and evolutionary biology will be discussed. Instructor: Flanagan or Neander. One course.

650S. Topics in Formal Philosophy. Topics selected from formal logic, philosophy of mathematics, philosophy of logic, or philosophy of language. Instructor: Staff. One course.

692S. Bioethics. EI Course offers a graduate-level intro to bioethics. Topics include the history of bioethics; research ethics; limit setting in health care; and reproductive ethics. Course primarily intended for seniors and graduate students. Instructors Ross McKinney, Sreenivasan, and other faculty from the Trent Center for Bioethics, Humanities, and the History of Medicine. One course.


THE MAJOR

Requirements. Ten courses in philosophy, eight of which must be at the 200-level or above. The courses must include Philosophy 201 and 203; a course at the 200 level or above in value theory (for example, ethics, political philosophy); a course at the 200 level or above in metaphysics, epistemology, philosophy of mind, or philosophy of science; a course in logic (Philosophy 150 or 250) and at least one seminar at the 500-600 level.

Departmental Graduation with Distinction

The department offers work leading to Graduation with Distinction. See the section on honors in this bulletin.

THE MINOR

Requirements. At least five courses, no more than two of which may be below the 200 level. No specific courses are required. All students who wish to pursue a minor are encouraged to seek advice from faculty members in the department.

Physics (PHYSICS)

Professor Gao, Chair; Associate Professor Teitsworth, Associate Chair for Teaching; Professor Greenside, Director of Undergraduate Studies; Professors Aspinwall, Baranger, Bass, Bray, Behringer, Beratan, Chang, Edwards, Gauthier, Goshaw, Greenside, Howell, Johnson, Kotwal, Liu, Mueller, Oh, Palmer, Petters, Samei, Scholberg, Smith, Socolar, Springer, Thomas, and Tornow; Associate Professors Chandrasekharan, Curtarolo,
A major or a minor is available in this department.

Physics offers its majors a chance to learn about many extraordinary insights that the human race has discovered in its effort to understand the universe. Examples include what are the properties of matter and light, what are the concise remarkable laws that govern the properties of matter and light, how does complex structure emerge from the interactions of simpler pieces, and how physical laws and insights can be used to solve a great diversity of basic and applied problems. The analytical and experimental insights that a physics major gains are valuable to the study of all areas of science and engineering. The Physics Department also offers courses for students with a casual interest in science, who wish to learn about what physicists have discovered about nature and how physicists think about nature.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

127S. Physics and the Universe. NS Exploration of our understanding of the universe, including the formation of large scale structure, galaxies, stars, the elements, and life. Scientific innovations driving this picture including esoteric theories such as general relativity and string theory, and technological breakthroughs such as the Hubble space telescope and gravitational wave detectors. Instructor: Mueller. One course.

134. Introduction to Astronomy. NS How observation and scientific insights can be used to discover properties of the universe. Topics include an appreciation of the night sky, properties of light and matter, the solar system, how stars evolve and die, the Milky Way and other galaxies, the evolution of the universe from a hot Big Bang, exotic objects like black holes, and the possibility for extraterrestrial life. Prerequisite: high-school-level knowledge of algebra and geometry. Instructor: Plesser. One course. C-L: Visual and Media Studies 150

135. Conceptual Physics. NS, STS Concepts relevant for the explanation of common physical phenomena and their impact on society. Understanding of fundamental principles of Physics that underlie the modern world in which we live. Exploring examples of how these apply to critical technologies that make modern civilization possible. Intended for students not majoring in science or engineering; no previous knowledge of Physics is assumed. Instructor: Palmer. One course.


137S. Energy in the 21st Century and Beyond. NS, STS Concepts of energy from a scientific perspective for understanding problems of energy conversion, storage, and transmission in modern society. Topics include fundamental concepts (kinetic and potential energy, heat, basic thermodynamics, mass-energy equivalence), established power generation methods and their environmental impacts, emerging and proposed technologies (solar, wind, tidal, advanced fusion concepts). Final team project. Sophomores, juniors, and seniors from non-science majors are particularly encouraged to attend; no previous knowledge of physics is assumed. Instructor: Teitsworth. One course.

138S. Physics Research and the Economy. NS, STS Analyses of the role of physics in the development of commercial technologies, with emphasis on curiosity driven research. Seminar requiring independent investigations of the intellectual origin of technological devices, with equal attention to physics principles and political or socioeconomic influences on research funding and product development. No prior instruction in physics assumed. Instructor: Howell. One course.

141L. General Physics I. NS, QS First part of a two-semester, calculus-based, physics survey course for students planning study in medicine or the life sciences. Topics: kinematics, dynamics, systems of particles,
conservation laws, statics, gravitation, fluids, oscillations, mechanical waves, sound, thermal physics, laws of thermodynamics. For credit, enrollment in Physics 141L and a lab/recitation (Physics 141L9, 141D) section required. Students planning to major in physics should enroll in Physics 161L, 162L in their freshman year. Closed to students having credit for Physics 151L, 153L, or 161L. Prerequisites: one year of college calculus (or equivalent) such as Mathematics 105L, 106L, or 21. Mathematics 122 recommended. Instructor: Brown. One course. C-L: Marine Sciences

141LA. General Physics I. NS, QS First part of a two-semester, calculus-based, physics survey course for students planning study in the medicine or the life sciences. Topics: kinematics, dynamics, systems of particles, conservation laws, statics, gravitation, fluids, oscillations, mechanical waves, sound, thermal physics, laws of thermodynamics. For credit, enrollment in Physics 141L and a lab/recitation (Physics 141L9, 141D) section required. Students planning to major in physics should enroll in Physics 161L, 162L in their freshman year. Closed to students having credit for Physics 151L, 153L, or 161L. Prerequisites: one year of college calculus (or equivalent) such as Math 105L, 106L, or 21. Math 122 recommended. Instructor: Staff. One course.

142L. General Physics II. NS, QS The second-semester of a calculus-based course on the principles of physics for students who do not plan to major in physics or in engineering. Topics include: electric fields, DC and AC circuits, magnetic fields, Faraday's law, Maxwell's equations, electromagnetic waves, properties of light, geometry, optics, and wave optics. Students must enroll in a lecture section (PHY 142L), a lab section (PHY 142L9), and a recitation section (PHY 142L9R) to receive credit. Closed to students having credit for Physics 152L, 153L or 162L. Prerequisites: Physics 141L, 151L, or 161L. Instructor: Bass or Brown. One course. C-L: Marine Sciences

142LA. General Physics II. CZ, QS Second part of a two-semester calculus based course surveying principles of physics for students planning to study medicine or life sciences. Topics include: electrostatic fields and potential, capacitors, DC circuits, magnetic fields, electromagnetic induction, Maxwell's equations, electromagnetic waves, properties of light (including reflection, refraction, polarization), geometric optics, wave optics, atomic and nuclear physics. Students must enroll in both a lecture and a lab/recitation section to receive credit. Open only to students in the Duke Marine Lab. Closed to students having credit for Physics 152L, 153L or 162L. Prerequisites: Physics 141L, 151L, or 161L. One course.

151L. Introductory Mechanics. NS, QS The fundamentals of classic physics. Topics include: vectors, units, Newton's Laws, static equilibrium, motion in one and two dimensions, rotation, conservation of momentum, work and energy, gravity, simple and chaotic oscillations. Numerical methods used to solve problems in a workstation environment. Intended principally for non-physics majors in the physical sciences and engineering. Students planning a major in physics should enroll instead in Physics 161L, 162L in their freshman year. Closed to students having credit for Physics 141L or 161L. Prerequisites: Mathematics 21, 122, or equivalent; Mathematics 122 may be taken concurrently with Physics 151L. Instructor: Behringer. One course.

152L. Introductory Electricity, Magnetism, and Optics. NS, QS Intended principally for students in engineering and the physical sciences. Topics include: electric charge, electric fields, Gauss's Law, potential, capacitance, electrical current, resistance, circuit concepts, magnetic fields, magnetic and electric forces, Ampere's Law, magnetic induction, Faraday's Law, inductance, Maxwell's Equations, electromagnetic waves, elementary geometric optics, wave interference, and diffraction. Prerequisites: Physics 151L and Mathematics 122 or equivalents. Instructor: Baranger or Kruse. One course.

153L. Applications of Physics: A modern perspective. NS, QS Intended principally for students in engineering and the physical sciences as a continuation of Physics 152L. Topics include: mechanics from a microscopic perspective, the atomic nature of matter, energy, energy quantization, entropy, the kinetic theory of gases, the efficiency of engines, electromagnetic radiation, the photon nature of light, physical optics and interference, waves and particles, applications of wave mechanics. Not open to students having credit for Physics 142L or 162L. Prerequisites: Physics 152L and Mathematics 212 or the equivalents. Instructor: Chang. One course.
161L. Fundamentals of Physics. NS, QS First semester of a two-semester sequence recommended for potential physics or biophysics majors. Course will discuss vector algebra, description of motion, Newton's laws, work and energy, systems of particles, conservation laws, rotation, gravity, mechanics of fluids, oscillations, mechanical waves, and sound. Closed to students having credit for Physics 161L or its equivalent. Prerequisites: Mathematics 21 and 122 or equivalents; Mathematics 122 may be taken concurrently. Instructor: Springer. One course.

162L. Fundamentals of Physics. NS, QS Second semester of a two-semester course series intended for potential physics or biophysics majors. Course discusses basic principles and applications of electrodynamics, including: electric fields, Gauss's Law, electric potential, capacitance, DC and AC circuits, magnetic fields, Ampere's Law, electric and magnetic forces, magnetic induction, Maxwell's equations, electromagnetic waves, properties of light, ray optics, and wave optics. Closed to students having credit for Physics 142L or its equivalent. Prerequisites: Physics 161L and Math 122 or consent from the instructor. Instructor: Greenside. One course.


214S. Introductory Seminar in Biophysics. NS Weekly seminar with goal of introducing students to representative biophysics topics. Seminar will be a mix of presentations by researchers and students, of discussions of journal articles, and of tours of biophysics labs. Prerequisites: Knowledge equivalent to Advanced Placement courses in biology, chemistry, and physics, or with permission of the instructor. Required for the Biophysics major. Instructor: Staff. Half course.

215L. Basic Research Skills for Physics. Covers basic skills necessary in physics research. Possible topics include document software (LaTex, MS Office), computer interfacing (LabView), C++ (or Java) programming, graphing and statistical analysis software (PAW, ROOT, Mathematica, Matlab), and Laboratory techniques (Vacuum, Nuclear/HEP Electronics, sensors, optics). Instructor: Kotwal. Half course.

264L. Optics and Modern Physics. NS Third course in sequence for physics and biophysics majors. Introductory treatments of special relativity and quantum mechanics. Topics include: wave mechanics and interference; relativistic kinematics, energy and momentum; the Schrodinger equation and its interpretation; quantum particles in one-dimension; spin; fermions and bosons; the hydrogen spectrum. Applications to crystallography, semiconductors, atomic physics and optics, particle physics, and cosmology. Prerequisites: Physics 162L and Mathematics 212 or their equivalents. Instructor: Staff. One course.

271L. Electronics. NS Elements of electronics including circuits, transfer functions, solid-state devices, transistor circuits, operational amplifier applications, digital circuits, and computer interfaces. Lectures and laboratory. Prerequisites: Physics 142L, 152L, or 162L, or equivalent; Mathematics 212 or equivalent. Instructor: Finkelstein. One course. C-L: Information Science and Information Studies

305. Introduction to Astrophysics. NS Basic principles of astronomy treated quantitatively. Cosmological models, galaxies, stars, interstellar matter, the solar system, and experimental techniques. Prerequisites: Physics 143, Mathematics 103, Math 107 strongly encouraged; or consent of instructor. Instructor: Scholberg. One course.

320L. Optics and Photonics. NS One course. C-L: see Electrical and Computer Engineering 340L; also C-L: Visual and Media Studies 325L

361. Intermediate Mechanics. NS Newtonian mechanics at the intermediate level, Lagrangian mechanics, linear oscillations, chaos, dynamics of continuous media, motion in noninertial reference frames. Prerequisite: Mathematics 216 or equivalent (may be taken concurrently). Instructor: Arce. One course.

363. Thermal Physics. NS Thermal properties of matter treated using the basic concepts of entropy, temperature, chemical potential, partition function, and free energy. Topics include the laws of thermodynamics, ideal gases, thermal radiation and electrical noise, heat engines, Fermi-Dirac and Bose-Einstein distributions, semiconductor statistics, kinetic theory, and phase transformations. Also taught as Electrical and Computer Engineering 311. Prerequisites: Mathematics 212 or equivalent and Physics 141L, 152L, 161L or equivalent. Instructor: Staff. One course.


513. Nonlinear Dynamics. QS, R Introduction to the study of temporal patterns in nonequilibrium systems. Theoretical, computational, and experimental insights used to explain phase space, bifurcations, stability theory, universality, attractors, fractals, chaos, and time-series analysis. Each student carries out an individual research project on a topic in nonlinear dynamics and gives a formal presentation of the results. Prerequisites: Computer Science 101, Mathematics 216, and Physics 161L, 162L, or equivalent. Instructor: Behringer or Virgin. One course. C-L: Computer Science 524, Modeling Biological Systems

414. Biophysics in Cellular and Developmental Biology. NS Application of the experimental and theoretical methods of physical sciences to the investigation of biological systems. Topics include the physical techniques for investigating biological organization and function as well as examples of key applications. Prerequisites: Calculus-based introductory physics, Biology 201 or equivalent or consent of instructor. Instructor: Buchler. One course. C-L: Biology 418, Modeling Biological Systems

417S. Advanced Physics Laboratory and Seminar. NS, R, W Experiments involving the fields of electricity, magnetism, heat, optics, and modern physics. Written and oral presentations of results. Instructor: Oh. One course.

464. Quantum Mechanics I. NS Introduction to the non-relativistic quantum description of matter. Topics include experimental foundations, wave-particle duality, Schrodinger wave equation, interpretation of the wave function, the state vector, Hilbert space, Dirac notation, Heisenberg uncertainty principle, one-dimensional quantum problems, tunneling, the harmonic oscillator, three-dimensional quantum problems, angular momentum, the hydrogen atom, spin, angular momentum addition, identical particles, elementary perturbation theory, fine/hyperfine structure of hydrogen, dynamics of two-level systems, and applications to atoms, molecules, and other systems. Prerequisite: Mathematics 216 or 221 and Physics 264L. Instructor: Teitsworth. One course.

465. Quantum Mechanics II. NS Advanced topics in quantum mechanics with applications to current research. Topics might include theory of angular momentum, role of symmetry in quantum mechanics, perturbation methods, scattering theory, the Dirac equation of relativistic quantum mechanics, systems of identical particles, and quantum entanglement. Prerequisite: Physics 464. Instructor: Mehen. One course.

491. Independent Study: Advanced Topics. Reading in a field of special interest under the supervision of a faculty member. Intended for students interested in studying textbook topics not offered in regularly available courses. At least a final examination is required and the format is determined by the supervising faculty member. Consent of instructor required. Instructor: Staff. One course.

493. Research Independent Study. R Original research conducted under the supervision of a faculty member. At least one written substantive report or a poster presentation is required. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

495. Thesis Independent Study. R, W Original research conducted under the supervision of a faculty member leading to a substantial written report that follows standard guidelines for the presentation of physics research. The report must be revised at least once in response to feedback from the instructor. Typically taken following Physics 493 or summer research experience with the instructor. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.
501. **Survey of Nonlinear and Complex Systems. NS, QS** Survey lectures by Duke experts active in CNCS research; regular attendance in the CNCS seminar series; and a weekly meeting to discuss the lectures and seminars. May be repeated once. Prerequisite: Physics 513. Instructor: Behringer. Half course. C-L: Nonlinear and Complex Systems 501, Modeling Biological Systems

505. **Introduction to Nuclear and Particle Physics. NS** Introductory survey course on nuclear and particle physics. Phenomenology and experimental foundations of nuclear and particle physics; fundamental forces and particles, composites. Interaction of particles with matter and detectors. SU(2), SU(3), models of mesons and baryons. Weak interactions and neutrino physics. Lepton-nucleon scattering, form factors and structure functions. QCD, gluon field and color. W and Z fields, electro-weak unification, the CKM matrix, Nucleon-nucleon interactions, properties of nuclei, single and collective particle models. Electromagnetic and hadronic interactions with nuclei. Nuclear reactions and nuclear structure, nuclear astrophysics. Relativistic heavy ion collisions. Prerequisites: for undergraduates, Physics 464, 465; for graduate student, Physics 715, which may be taken concurrently. Instructor: Walter. One course.

522. **Special and General Relativity. NS** Review of special relativity; ideas of general relativity; mathematics of curved space-time; formation of a geometric theory of gravity; Einstein field equation applied to problems such as the cosmological red-shift and blackholes. Prerequisite: Physics 361 and Mathematics 216 or equivalents. Instructor: Plesser. One course.

562. **Fundamentals of Electromagnetism.** Electrostatics, Laplace's equation, multipole expansion, dielectrics, magnetostatics, magnetization, Maxwell equations, gauge transformations, electromagnetic waves, Fresnel equations, and waveguides. Prerequisite: Physics 362 or equivalent and 560. Instructor: Palmer. One course.


566. **Computational Physics. NS, QS** Introduction to numerical algorithms and programming methodologies that are useful for studying a broad variety of physics problems via simulation. Applications include projectile motion, oscillatory dynamics, chaos, electric fields, wave propagation, diffusion, phase transitions, and quantum mechanics. Prerequisites: Physics 143L and 176. Experience with a programming language is desirable, but can be acquired while taking the course. Instructor: Bass. One course.

590S. **Selected Topics in Theoretical Physics. NS** Topics vary as indicated on Physics Department Web site. Consent of Instructor required. Instructor: Staff. One course.

603. **Representation Theory. QS** One course. C-L: see Mathematics 603

621. **Advanced Optics.** This course presents a rigorous treatment of topics in Photonics and Optics targeted at students with an existing photonics or optics background. Topics will include, Optical Sources, Statistical Optics and Coherence Theory, Detection of Radiation; Nonlinear Optics; Waveguides and Optical Fibers; Modern Optical Modulators; Ultrafast lasers and Applications. These topics will be considered individually and then from a system level perspective. Prerequisite: Electrical and Computer Engineering 340 or equivalent. Instructor: Gauthier. One course. C-L: Electrical and Computer Engineering 541, Biomedical Engineering 552

622. **General Relativity. NS** This course introduces the concepts and techniques of Einstein's general theory of relativity. The mathematics of Riemannian (Minkowskian) geometry will be presented in a self-contained way. The principle of equivalence and its implications will be discussed. Einstein's equations will be presented, as well as some important solutions including black holes and cosmological solutions. Advanced topics will be pursued subject to time limitations and instructor and student preferences. Prerequisite: A familiarity with the special theory and facility with multivariate calculus. Instructor: Plesser or Aspinwall. One course. C-L: Mathematics 527

627. **Quantum Information Science. NS** One course. C-L: see Electrical and Computer Engineering 523

671. Quantum Optics. NS The linear and nonlinear interaction of electromagnetic radiation and matter. Topics include lasers, second-harmonic generation, atomic coherence, slow and fast light, squeezing of the electromagnetic field, and cooling and trapping of atoms. Prerequisite: Physics 465 and 560. Instructor: Gauthier. One course.

THE MAJOR

By the time they graduate, Physics majors are well prepared for graduate work in physics, engineering and in other science disciplines, for the study of medicine, and for employment in commercial and industrial organizations as well as in governmental laboratories. Students planning to major in physics should take Physics 161L and 162L during their freshman year if possible. They should also arrange to complete the mathematics requirements by the end of their sophomore year.

For the A.B. Degree

Prerequisites. Physics 161L and 162L or equivalents; Mathematics 21, 122, 212, and one additional math course at or above the 200 level.

Major Requirements. Physics 264L, 361, 363, 464, one among the laboratory courses 271L, 417S, and 493 (involving experimental research), and one other course in physics above 200.

For the B.S. Degree

Prerequisites. Physics 161L and 162L or equivalents; Mathematics 21, 122, 221, and 356 or their equivalents.

Major Requirements. Physics 264L, 361, 362, 363, 464, 417S, one other physics course numbered above 300 and one other physics course numbered above 400. Students planning graduate study in physics are urged to take additional electives in mathematics and in physics, especially Physics 465.

Departmental Graduation With Distinction

The department offers students many possibilities to do physics research, and this research may lead to Graduation with Distinction. Consult with the Director of Undergraduate Studies during or before the junior year and see the section on honors in this bulletin.

THE MINOR

Requirements. Physics 161L and 162L or equivalents; Physics 264L; plus two additional physics courses numbered above 200.

THE BIOPHYSICS MAJOR

Biophysics is the study of biological questions using insights, concepts, theory, and experimental techniques from physics, as well as knowledge from biology, chemistry, mathematics, and computer science. The major is a good choice for students who like biology and who enjoy thinking quantitatively. The major prepares students for graduate school in biophysics, biology, or medical science or for one of the health professions. This major is administered in close cooperation with the Departments of Biology and Chemistry.

For the B.S. Degree

Prerequisites. Physics 161L and 162L or equivalents; Mathematics 21, 122, 212 and 216, or equivalents. Chemistry 101DL and 210DL, or equivalents.

Major Requirements. Physics 214S (0.5 course), 264L, 414 (CL-Biology 418), 464 and two of the following: 361, 362, 363 (but not if Chemistry 311 is chosen), Chemistry 201DL, Biology 201, 220. For students interested in the Cellular Biophysics, two of the following: Biology 202L, 227, 329L, 373LA, 412S, 414LS, Neuroscience 201, Independent Study. For students interested in Molecular Biophysics: Chemistry 310, 311 and 310L or 311L.
Double majors: For double majors with physics, no more than three physics courses may be counted toward both majors, not counting prerequisites. For double majors with biology, no more than two biology courses may be counted, not counting prerequisites. For double majors with chemistry, no more than three chemistry courses may be counted, not counting prerequisites.

For the A.B. Degree

Prerequisites. Physics 161L and 162L or equivalents; Mathematics 21, 122, 212, or equivalents. Chemistry 101DL and 210DL, or equivalents.

Major Requirements. Physics 214S (0.5 course), 264, 414 (CL-Bio 418), 464 and one of the following: 361, 362, 363 (but not if Chemistry 301 is chosen). Biology 201L, 220. For students interested in Cellular Biophysics, two of the following: Biology 202L, 227, 329L, 373LA, 412S, 414LS, Neuroscience 201, Independent Study. For students interested in Molecular Biophysics, Chemistry 301 and 301L and one of the following: Chemistry 302, Biology 414LS, Biochemistry 622 (CL-SBB 622, CBB 622), Biochemistry 301, Biochemistry 658, Independent Study.

Double majors: for double majors with physics, no more than three physics courses may be counted toward both majors, not counting prerequisites. For double majors with biology, no more than two biology courses may be counted, not counting prerequisites. For double majors with chemistry, no more than two chemistry courses may be counted, not counting prerequisites.

Policy Journalism and Media Studies (PJMS)

Professor Hamilton, Co-Director; Lecturer Rogerson, Co-Director

A certificate, but not a major, is available in this program.

The DeWitt Wallace Center for Media and Democracy offers an interdisciplinary certificate in policy journalism and media studies, which helps to prepare students for careers in media policy, journalism, and associated professions in the rapidly shifting arena of global communications. Courses for the certificate focus on educating students about the institutional, economic, and political complexities of media policies worldwide through the study of the interaction between the key players in media policymaking, journalism, media-concerned non-governmental organizations (NGOs), and academics specializing in media studies. Students will research contemporary media policy-making and its impact on the practice of journalism in order to learn about the broad political dynamics which condition both United States’ and international media policy, past and present. Students will also examine conceptions of media, media policy, and journalism in a global market, as well as the current educational challenges confronting journalists whose knowledge needs to be increasingly specialized in order to explain complex global situations to their audiences.

PROGRAM REQUIREMENTS

The Policy Journalism and Media Studies Certificate is open to all undergraduates. Candidates must complete the prescribed combination of six courses, at least four at the 200 level or above. The six courses must include: three core courses, two of which must be the capstone course, Public Policy Studies 410 (Policy Journalism and Media Studies), and Public Policy Studies 371S (News As Moral Battleground), and a third core course, either Public Policy Studies 365S, 366S, or 367S, (Television Journalism, Magazine Journalism, or News Writing and Reporting); as well as three elective courses from an approved list which can be found at dewitt.sanford.duke.edu/certificate-courses/. New courses, special topics courses, and independent study courses may also be approved as elective courses by the program. Each student is also required to complete an internship in the field prior to taking the capstone course (the internship must be approved before it is begun). No more than four courses may be in a single department; if students take four Public Policy Studies courses, the fourth course must be cross-listed with another department. No more than two courses that are counted toward this certificate may satisfy the requirements of any major, minor, or other certificate program. A minimum of three courses must be taken by the end of the junior year.
Students should register for the Policy Journalism and Media Studies Certificate at the Registrar’s Office (or, if they are declaring a major for the first time, through the Pre-Major Advising Center) and also see Program Co-Director Ken Rogerson in the Sanford School of Public Policy, room 148.

**190A. Duke Administered Study Away. SS** Duke administered course, either study abroad (international) or study away (domestic), approved for transfer credit towards the PJMS certificate. Includes all "Duke in ___" programs. Requires certificate program co-chair approval. Instructor: Staff. One course.

**310S. Intermediate Audio Documentary. ALP, R** One course. C-L: see Documentary Studies 310S

**365S. Television Journalism. SS** One course. C-L: see Public Policy Studies 365S; also C-L: Visual and Media Studies 305S

**390S. Special Topics in Policy Journalism & Media Studies. SS** Selected Policy Journalism & Media Studies topics. Instructor: Staff. One course.

**391. Independent Study.** One course.


**Core Course**

Public Policy Studies 371. News as Moral Battleground

**Capstone Course**

Public Policy Studies 410. Policy Journalism and Media Studies Capstone Course

**Journalism Practical Core Course Cluster**

**Documentary Studies**

356S. Magazine Journalism

**Public Policy Studies**

365S. Television Journalism

366S. Magazine Journalism

367S. News Writing and Reporting

**Visual and Media Studies**

305S. Television Journalism

306S. Magazine Journalism

307S. News Writing and Reporting

**Elective Courses**

**Art History**

203. Visualizing Cultural Dissent in Modernism, 1880-1945

537S. Critical Studies in New Media

**Arts of the Moving Image**

201. History and Concepts of Cinema

207. Cultural History of the Televisual


325. Fundamentals of Web-Based Multimedia Communications

331S. The Documentary Experience: A Video Approach

333S. Editing the TV Documentary: From Creativity to Collaboration to Negotiation

**Asian & Middle Eastern Studies**

325. Islamic Awakening: Revival and Reform

345. Representing the Middle East

535S. Chinese Media and Pop Culture

**Computer Science**

92. Technical and Social Analysis of Information and the Internet

**Cultural Anthropology**

106S. The Documentary Experience: A Video Approach

150. Fantasy, Mass Media, and Popular Culture

170. Advertising and Society: Global Perspective

213. Cyborgs

251. Representing the Middle East

272S. Advertising and Masculinity

**Documentary Studies**
105S. The Documentary Experience: A Video Approach
111S. Documentary Writing: Creative Nonfiction Through Fieldwork
230S. Small Town USA: Local Collaborations
233S. American Communities: A Photographic Approach
264. History and Concepts of Cinema
279S. Editing the TV Documentary: From Creativity to Collaboration to Negotiation
290S. Special Topics in Documentary Studies
310S. Intermediate Audio Documentary
359S. Islam and the Media
415S. Advanced Documentary Photography

Economics
509. Media Policy and Economics

English
111S. Documentary Writing: Creative Nonfiction Through Fieldwork
181. History and Concepts of Cinema
310A. Making Media
391A. Duke in New York Arts and Media Independent Stud

Environment
364S. Science and The Media

History
125S. The Documentary Experience: A Video Approach
213. Representing the Middle East
298. Genocide in the Twentieth Century

Information Science and Information Studies
101. Technical and Social Analysis of Information and the Internet
240. Fundamentals of Web-Based Multimedia Communications
283. Cultural History of the Televisual
294L. Interactive Graphics: Critical Code
353S. Chinese Media and Pop Culture
565S. New Media, Memory, and the Visual Archive

International Comparative Studies
105. Fantasy, Mass Media, and Popular Culture
270. Eastern Europe in Transition: Markets, Media, and the Mafia
362. Representing the Middle East

Linguistics
170. Advertising and Society: Global Perspective

Literature
110. History and Concepts of Cinema
621S. Critical Studies in New Media

Music
222S. Radio: The Theater of the Mind

Physical Education
212. Sports Media

Political Science
105S. The Documentary Experience: A Video Approach
201. Public Opinion
305. Campaigns and Elections
501S. Politics and Media in the United States
619. Media and Social Change

Public Policy Studies
170S. The Documentary Experience: A Video Approach
264. Critical Reflection and Adaptive Leadership in Complex Systems
290. Selected Public Policy Topics
364. Media and National Security
372. Information, Policy, and Ethics
373S. Intellectual Property: Law, Policy, and Practice
376S. Telecommunications Policy and Regulation
379S. The First Amendment and Information Society
381S. Science and The Media
382S. Narrative Journalism in the Digital Age
384S. Global Democratization: Uses and Misuses of Ratings and Measurements
385S. Higher Education and The News Media
Polish

For courses in Polish, see Slavic and Eurasian studies on page 595.

Political Science (POLSCI)

Professor Remmer, Chair; Associate Professor Wibbels, Associate Department Chair; Associate Professor of the Practice Maghraoui, Director of Undergraduate Studies; Professors Aldrich, Feaver, Gelpi, Gillespie, Grant, Grieco, Hamilton (public policy), Horowitz (law), Hough, Jentleson (public policy), Kitschelt, Knight, Kuran (economics), Lange, McClain, Michiewicz (public policy), Munger, Niou, Paletz, Price, Remmer, Rohde, Rosenberg (philosophy), and Spragens; Associate Professors Beramendi, de Marchi, Hacohen (history), Hillygus, Mayer (public policy), and Wibbels; Assistant Professors Balcels, Bermeo (public policy),
Büthe, Charney (public policy), Goss (public policy), Johnson (public policy), Johnston, Kelley (public policy), Kirshner, Krishna (public policy), Leventoglu, and Siegel (law); Professors Emeriti Eldridge, Fish, Hall, Holsti, Johns, and McKean; Research Professors Brennan, Euben, and Soskice; Adjunct Professors Engstrom, MacKuen, Stimson, and Vanberg; Adjunct Associate Professor Kessler; Associate Professor of the Practice Maghraoui

A major or a minor is available in this department.

Courses in political science for undergraduates are offered in six subfields: Political Institutions; Political Economy; Security, Peace and Conflict; Political Behavior and Identity; Political Methodology; and Political Philosophy. More information on courses and subfields is found at [www.poli.duke.edu/undergraduate](http://www.poli.duke.edu/undergraduate). The area of knowledge designation is followed by the relevant curriculum codes. Following the course descriptions, you will find information on internships, and requirements for the major, minor, and honors.

**INTRODUCTORY COURSES**

The following courses introduce the study of political science. Courses numbered 49S, and 91 through 93 serve as introductions to the discipline. Students ordinarily will take at least one of these courses before proceeding to more advanced courses. Some advanced courses may require a particular introductory course as a prerequisite.


21. Comparative Government and Politics. Credit for Advanced Placement on the basis of the College Board examination in comparative government and politics. Does not satisfy course requirements of the political science major. One course.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

110. Comparative Approaches to Global Issues. CCI, CZ, SS One course. C-L: see International Comparative Studies 195; also C-L: Cultural Anthropology 195, History 103, Religion 195, Sociology 195, Marxism and Society

114D. From Voting to Protests: Introduction to Political Attitudes, Groups and Behaviors. CCI, SS Covers basic core concepts for understanding political behavior - attitudes, beliefs, and actions of the general public in political life - and the development and consequences of racial, ethnic, and other types of (politically relevant) identities. Broadly comparative approach, looking at publics throughout the world. Special focus on political behavior and identities in democracies, where behavior is consequential in ordinary workings of politics. Also examines extraordinary political behavior, such as participation in protests, riots, and civil wars. Instructor: Staff. One course.

116. The American Political System. SS Focus on the institutional structure of the American national government, the goals of the political actors who operate within it, and the contexts that affect political action. Institutional analysis of the effects of the original constitutional structure and of developments since. Emphasis on the relationship between the preferences of the general public and the decisions of government actors. Instructor: Staff. One course.

116D. The American Political System. SS Same as Political Science 150 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Staff. One course.

117. Democracy, Development and Violence: Introduction to Comparative Politics. CCI, EI, SS Analysis of creation and break down of political order. Exploration of why some societies establish democratic political orders but others dictatorial rule; how democracies and dictatorships work; impact of political regimes and institutions on economic growth, development, poverty, and inequality; civil wars and revolutions. Goal is to understand how political regimes and economic development shape the dynamics of collective violence and how political orders collapse. Examples drawn from contemporary world history and current world affairs,
including advanced capitalist democracies and low- and middle-income countries. Instructor: Staff. One course. C-L: International Comparative Studies

117D. Democracy, Development, and Violence: Introduction to Comparative Politics. CCI, EI, SS Same as Political Science 117 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Staff. One course. C-L: International Comparative Studies, Islamic Studies

120D. The Challenges of Living an Ethical Life. CZ, EI One course. C-L: see Study of Ethics 101D

130D. Introduction to Political Inquiry. SS Introduction to the deductive, quantitative, and historical techniques used in empirical inquiry in political science. Examines the study of politics as a social science and explores the assumptions underlying various methodologies used in the field. Reviews methods of measurement, comparison, and the construction of empirical and theoretical models of political phenomena. Intended for students who have taken at least one political science course, but there are no prerequisites. Not open to students who have previously taken this course as Political Science 107. Instructor: Staff. One course.

145. Introduction to Political Economy. EI, SS Introduction to history of political economy. Three components: (1) history of economic thought as outgrowth of moral philosophy; (2) microeconomics and price theory; (3) macroeconomics and monetary policy. Intended as an economics course for non-majors. No prerequisite except high school mathematics. Does not count toward Economics major or minor. Instructor: Munger. One course. C-L: Economics 119, Politics, Philosophy, and Economics

160. Elements of International Relations. CCI, SS The theory and practice of international politics and foreign policy; analysis of the various elements of national power and its impact on differing world views and foreign policy behavior, the instruments of foreign policy, and the controls of state/nation behavior across different historical periods and from different national and analytical perspectives. Instructor: Staff. One course.

160D. Elements of International Relations. CCI, SS Same as Political Science 160 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Eldridge or Feaver. One course.

175. Introduction to Political Philosophy. EI, SS An intensive comparative examination of the nature and enduring problems of political philosophy through the confrontation, interpretation, and normative assessment of classic texts from the Greek polis to the present. Selected theorists and their arguments and beliefs within the Western political tradition concerning justice, the good life, freedom, community, power, authority, and others. Careful attention to the ways argument and rhetoric operate in texts of political philosophy, as well as diverse modes of interpretation. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments

175D. Introduction to Political Philosophy. EI, SS Same as Political Science 223 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments

175FS. Introduction to Political Philosophy. EI, SS Conflicting visions of freedom and responsibility that characterize the modern world; the possibility of leading ethical lives in the face of conflicting demands that a complex vision of the good engenders. Readings include Luther, Hobbes, Locke, Rousseau, Marx, Kant, and Jack London. Course aims to be an intense introduction to Western philosophical ideas of freedom and responsibility. Instructor: Gillespie. One course. C-L: Philosophy 123FS, Ethics Courses Offered Through Other Departments

180FS. Hierarchy and Spontaneous Order: The Nature of Freedom in Political and Economic Organizations. EI, SS, W An examination, drawing on great works of political and economic thought, of ideal and real regimes to evaluate two opposed positions: that hierarchy and some form of imposed coercive organization are essential to liberty and human self-realization, and that the most important kinds of order and action in human societies are spontaneous and voluntary. Close scrutiny and interpretation of texts on religion
and historical arguments. Readings include Aristotle, Plato, Hobbes, Locke, Rousseau, and other classic texts. Open only to students in the Focus Program. Instructor: Gillespie. One course.

181FS. Reason, Virtue, and Rights. CCI, CZ, EI, SS The theoretical meanings and practical consequences of historical views of rights; their philosophical resuppositions in relation to a view of human nature and of reason. Open only to students in the Focus Program. Instructor consent required. Instructor: Hull. One course.

182FS. Introduction to Middle East Politics. CCI, CZ, EI, SS Introduction to political systems, processes, movements, and conflicts in the Middle East. Open only to students in the Focus Program. Instructor: Maghraoui. One course. C-L: Islamic Studies

183FS. Conflict, Collusion, and Cooperation. SS Applications of modern decision theory to the study of political science. Topics include: individual decision theory and rational choice; game theory and human interaction; and social choice theory and the mechanisms by which individual choices are aggregated into collective choices. Political institutions such as voting rules, legislatures, parties, and hierarchy, alternative voting methods and political institutions, and how societies solve some practical distributive problems. Although course has no mathematical prerequisites, students should be willing to consider abstract models and follow logically rigorous arguments. Open only to students in the Focus Program. Instructor: Demarchi. One course.

184FS. Ancient and Modern Liberty. CCI, CZ, EI, SS Introduction to various conceptions of liberty in Greek and Roman political and philosophical writing. Considerations of such questions as: what is distinctive about the modern conceptions of political and civil liberty; whether there is any necessary ethical connection between liberty and virtue, or whether there is liberty and active citizenship, or liberty and privacy; whether ancient conceptions of liberty can still serve as a model in contemporary politics and should be considered exemplary or inferior to modern conceptions of freedom. Open only to students in the Focus Program. Instructor: Grant. One course. C-L: Classical Studies

185FS. The Politics of Language. SS One course. C-L: see Slavic and Eurasian Studies 215FS; also C-L: Linguistics 213FS

262. The Holocaust. CCI, CZ, EI, STS One course. C-L: see History 297; also C-L: Jewish Studies 342, Religion 342

STUDY ABROAD COURSES

190A. Duke-Administered Study Abroad: Special Topics in Political Science. Topics differ by section. Instructor: Staff. One course.


283A. Duke Summer/Semester Program: Madrid. CCI, SS Instructor: Staff. One course.

284A. Duke Summer Program: Ecuador. CCI, SS Instructor: Staff. One course.

285A. Duke Summer/Semester Program: St. Petersburg, Russia. CCI, SS Permission of instructor required. Instructor: Staff. One course.


287A. Duke Semester Program: Venice. CCI, SS Topics differ by section. One course.

290A. Duke-Administered Study Abroad: Advanced Special Topics in Political Science. CCI, SS Topics differ by section. Instructor: Staff. One course.

293A. Research Independent Study on Contemporary China. R Research and field studies culminating in a paper approved and supervised by the resident director of the Duke in China program. Includes field trips
on cultural and societal changes in contemporary China. Offered only in the Duke in China Program.

Instructor: Staff. One course.


296A. Germany Today: A European Superpower? Duke-in-Berlin. CCI, FL, SS One course. C-L: see German 359A; also C-L: International Comparative Studies

297A. Political Philosophy of Globalization. CCI, CZ, EI, SS One course. C-L: see Philosophy 237A; also C-L: Public Policy Studies 204A

298A. Themes in Chinese Culture and History. CCI, CZ, SS One course. C-L: see Cultural Anthropology 343A; also C-L: History 224, International Comparative Studies

299SA. Environment, Health, and Development in China. CCI, EI, SS, STS One course. C-L: see Cultural Anthropology 395AS; also C-L: Global Health Certificate 383AS, Ethics Courses Offered Through Other Departments

OTHER UNDERGRADUATE COURSES


108. Introduction to African Studies. ALP, CCI, CZ One course. C-L: see African and African American Studies 103; also C-L: Cultural Anthropology 105, History 129

201. Public Opinion. EI, SS Theories of public opinion: childhood socialization, attitude formation, learning, expression, opinion/behavior link. Public attitudes toward central ethical and political issues and controversies at various times in American political history. Democratic norms and values, race and affirmative action, candidate impression formation, and relation of elite and mass opinion. Origins, manifestations, and consequences of public opinion in American politics. Instructor: Staff. One course. C-L: Policy Journalism and Media

201S. Public Opinion. EI, SS Examine the link between racial identity and public opinion, specifically the concept of whiteness as a racial, social, and political identity. Explore the normative quality of white racial identity and its consequences for the American political process. Investigate white American public opinion on various political issues, white attitudes about people of color, as well as what whites think about their own racial group and racial identity. Instructor: Staff. One course.

203. Women and the Political Process. R, SS One course. C-L: see Women's Studies 225


205D. Introduction to Racial and Ethnic Minorities in American Politics. CCI, SS The politics of four of the United States principal racial minority groups -- blacks, Latinos, Asians, and American Indians. Instruction is provided in two lectures and one small discussion meeting each week. Instructor: McClain. One course. C-L: African and African American Studies 257D

206. American Values, Institutions, and Culture—1760 to 1845. CCI, SS Introduction to American politics and institutions. Political thought of the American and French revolutions; the formation of the institutions of American government; the role of property, especially slavery, in shaping American politics and policy; and the expansion of American ambition, through "manifest destiny" at home and the Monroe doctrine abroad. Instructor: Munger. One course.
212. The American Presidency. EI, SS The American presidency and its influence on American government and politics across various historical periods. The role of the presidency as it relates to important ethical and political issues and controversies at various times in American political history. Comparison with executive offices in various countries. Instructor: Hough or Paletz. One course.

213A. Gender, Politics and Space in the Middle East. CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 343A; also C-L: Asian & Middle Eastern Studies 303A

215. American Constitutional Development I. SS Development of the United States Constitution through Supreme Court decisions: the foundations of national power, including the separation of powers, the nature of the federal union and the relationship of the Constitution to political and economic life since 1790. Instructor: Fish. One course. C-L: History 366

216. Modern American Constitutional Development II. SS Development of the United States Constitution through Supreme Court decisions: national power and federalism in the context of modern political and economic life, New Deal to the present. Instructor: Fish. One course. C-L: History 367

217. Law and Politics. SS Examination of the nature and functions of law and legal institutions through critical interpretation of legal texts and practices. Relationships among bench, bar, legislators, and administrators in the development of public as well as private law. Attention to judicial reasoning used in the resolution of cases and controversies involving the common law, statutes including selected aspects of civil procedure, and the American Constitution. Instructor: Staff. One course.

218. Constitutional Rights in U.S. History. CZ, EI, SS One course. C-L: see History 339

219. Comparative Government and Politics: Selected Countries. CCI, SS Special topics course treating the evolution and function of various national political systems at different stages of their historical and political development. The focus changes depending upon which nations and peoples are analyzed. Instructor: Staff. One course.

220. Putin's Russia: The History of Economic and Political Consolidation. CCI, CZ, EI, SS One course. C-L: see History 283; also C-L: Slavic and Eurasian Studies 382

221. South African History, 1870 to the Present. CCI, CZ, EI, SS One course. C-L: see History 208; also C-L: African and African American Studies 214

223S. Critical Current Issues in North America. CCI, EI, SS, W A survey course on current critical issues impacting North America, examined from a continental perspective. Specific areas of focus: trade, energy, immigration, the environment, continental defense, organized crime and the border. Course theme: to what extent are these challenges amenable to joint action by the three countries? Taught from the perspective of a U.S. diplomat, with emphasis on cross-cultural awareness - how do Mexicans or Canadians look at these issues? - the history of current problems, and workable policy solutions. Specific skills taught include the basics of effective memo writing and delivering compelling, succinct oral briefings. Instructor: Kelly. One course. C-L: Canadian Studies 250S

225S. Contemporary International Policy Issues. CCI, R, SS One course. C-L: see Public Policy Studies 211S

226. The European Union: History, Institutions and Policies. SS Comprehensive introduction to European integration with respect to both "process" and "outcome". Course traces the evolution of the European integration process from the late 1940's onwards. Discussion of the composition and core functions of major European Union institutions including the European Parliament, European Council, and European Commission. Study major areas of policy including agriculture policy, cohesion policy, economic and monetary policy, and foreign and security policy. Instructor: Staff. One course.

261. Ethnicity and U.S. European Policy. SS The domestic politics of the Cold War. The impact of the conflicts between the homelands of the European-American ethnic groups in World War I, World War II, and the postwar settlement upon American domestic politics and foreign policy towards Europe. The manner in
which Presidents and political parties handled this enormously sensitive issues, and the role of code words in the political discourse on foreign policy. Instructor: Hough. One course.

275. Left, Right, and Center: Competing Political Ideals. CCI, EI, SS Analysis of liberalism, conservatism, socialism, and their diverse conceptions of justice, freedom, community, and equality. Exploration of how these political philosophies interpret various social, religious, and political issues. The origins of these ideologies in early modern European thought. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments

275D. Left, Right, and Center: Competing Political Ideals. CCI, EI, SS Same as Political Science 275 except instruction provided in two lectures and one small discussion meeting each week. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments

276. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. ALP, CCI, STS One course. C-L: see Arts of the Moving Image 205; also C-L: Documentary Studies 270, Public Policy Studies 374, Visual and Media Studies 264

291-1. Sophomore/Junior Independent Study Political Theory. Individual non-research directed study in a field of special interest, under the supervision of a faculty member. Offered only in areas of study not otherwise provided in department course offerings, and with the direct approval and sponsorship of a faculty member. Will not generally be offered unless student has first established an extensive record of work with the faculty member. Written permission of faculty member, and detailed description of course of directed study, required before contacting the Director of Undergraduate Studies for permission number. Fulfills a political theory course requirement. Instructor: Staff. One course.

291-2. Sophomore/Junior Independent Study Political Institutions. Same as Political Science 291-1 except fulfills a political institutions course requirement. Instructor: Staff. One course.


291-4. Sophomore/Junior Independent Study Political Behavior and Identities. Same as Political Science 291-1 except fulfills a political behavior and identities course requirement. Instructor: Staff. One course.

291-5. Sophomore/Junior Independent Study Political Methodology. Same as Political Science 291-1 except fulfills a political methodology course requirement. Instructor: Staff. One course.

291-6. Sophomore/Junior Independent Study Political Economy. Same as Political Science 291-1 except fulfills a political economy course requirement. Instructor: Staff. One course.

292-1. Internship. Open to students engaging in practical or governmental work experience during the summer or a regular semester. A faculty member in the department will supervise a program of study related to the work experience, including a substantive paper on a politics-related topic, containing significant analysis and interpretation. Consent of director of undergraduate studies required. Instructor: Staff. One course.


301. Political Psychology. CCI, SS How individuals interact with their political environment and with other individuals and groups. Theories and findings from both disciplines to gain deeper insights into political processes and decisions. Likely topics include individuals' political attitudes, decisions and judgments. Other likely topics include theories of how people cooperate with each other and how groups come into conflict with each other, psychological approaches to analyzing political leaders and/or the way members of different cultures process political information. Instructor: Staff. One course. C-L: Psychology 225

302S. Political Persuasion. R, SS Examines political persuasion and democratic decision-making, with particular attention paid to political campaigns in the U.S. Explores what techniques political elites use to attempt to influence mass opinions and behaviors; who is likely to be influenced by such appeals; and the role
of the mass media. Readings drawn from political communication, political psychology, and political behavior. Pre-requisite: any one field introduction taken at the 100 level. Instructor: Hillygus. One course.

304. Latino Immigration and Elections. R, SS Course investigates the role of Latino immigrants in the U.S. political system. Examines patterns of Latino immigration historically and when and how both citizen and non-citizen Latinos engage in politics and to what extent these groups influence political outcomes. Pre-requisite: any one field introduction taken at the 100 level. Instructor: Staff. One course.

305. Campaigns and Elections. SS The campaign process, voting and elections in the United States, with emphasis on the varying role of media in campaigns. The nomination and election process; focus on the critical evaluation of various empirical models of voting behavior in presidential and congressional elections and the impact of election outcomes on the content and direction of public policy in various historical eras in American politics. Instructor: Aldrich. One course. C-L: Policy Journalism and Media

306S. Politics and the Libido. CCI, EI, SS The construction of gender and sexuality across nations and cultural groups. Effects of the libido on elite and mass political activities in the United States. Ethical and political issues and policy controversies at various times when the government has regulated or sought to regulate sex-inspired behavior. Instructor: Paletz. One course. C-L: Study of Sexualities, Women's Studies

307. Elections and Social Protest in Latin America. CCI, CZ, SS Introduction to the literature on electoral behavior and social movements and overview of elections and protest--who votes, who protests, and why they do it. Analysis of the following six countries: Bolivia, Mexico, Chile, Argentina, Venezuela, and Guatemala. Open to sophomores and juniors with a basic background in Latin American history. Instructor: Trejo. One course. C-L: International Comparative Studies 329, Latin American Studies 351

308. Islam and the State: Political Economy of Governance in the Middle East. CCI, CZ, R, SS One course. C-L: see Economics 326; also C-L: Islamic Studies

308S. Islam and the State: Political Economy of Governance in the Middle East. CCI, CZ, R, SS One course. C-L: see Economics 326S

309. Law and Constitutional Reform in Russia and the Former Soviet Union. CCI, CZ One course. C-L: see Russian 351

310. Political Analysis for Public Policy-Making. SS, W One course. C-L: see Public Policy Studies 301

316. American Political Parties. SS Introduction to the American party system. Social choice, structural-functionalism, and systems theory: why parties might be a necessary component of advanced industrial societies. Comparison of different social settings (ethnic, religious, class divisions) and how constitutional and party structures may relate. Tripartite theory of parties: parties in the electorate, as organizations, and in government. Historical development of parties in the United States since the Founding. The impact of media, regional, racial, gender, ethnic, and class identities on American party development. Instructor: Staff. One course.

318. Congress and the President. SS, W Critical interpretations of public policies and institutional practices to better understand the United States system of divided government. Special attention to understanding the consequences of cooperative and adversarial goals of the executive branch and the Congress. Features of this institutional balance of power in policy-making; institutional and political origins of laws and regulations. Instructor: Munger. One course.

319. US Comparative State Politics. CCI, SS Intensive comparative examination of government, political cultures, and politics in the American States, including institutions (governors, legislatures, courts), history of federalism, policies, practices, and diverse cultural factors such as class, race, ethnicity, gender, religion, urban-rural-suburban residencies that affect state politics. Instructor: Haynie. One course.

320. Development of Congress as an Institution. CCI, SS Changes in election processes, rules, and membership in six periods: federalist, antebellum, reconstruction, progressive era, civil rights era, post-Watergate. "Representativeness" of the institution, including focus on the history of racial and gender balance, and its meaning for policy and the views of members. Instructor: Staff. One course.
321. **International Law and International Institutions. CCI, R, SS** The relationship between international politics and international law; how international institutions operate and affect social practices, and how legalization of institutions changes the manner of interpretation of legal texts. The nature of legal and political discourse over issues subject to international law such as human rights; issues of compliance with rules, the connections between international relations and domestic law, and the overall effects of international law and institutions on world politics; cross-national differences in attitudes toward issues such as environmental regulation, trade liberalization, and military intervention on behalf of human rights. Prerequisite: Political Science 160 or equivalent. Instructor: Staff. One course. C-L: Markets and Management Studies

322. **Introduction to Middle East Politics. CCI, CZ, EI, SS** Introduction to political systems, processes, movements, and conflicts in the Middle East. Instructor: Maghraoui. One course. C-L: Islamic Studies

323. **Political Development of Western Europe. CCI, SS** The development of the modern political systems of Britain, France, Germany, and other European countries; the spread of capitalism, the emergence of mass democracy and the rise of the welfare state. Contemporary developments examined in historical and theoretical perspective. Instructor: Kitschelt. One course. C-L: International Comparative Studies

324. **Chinese Politics. CCI, SS** The Communist revolution, the structure of the political system and political decision making in the People's Republic of China in different eras of its evolution. The relations between state and society, and the political implications and consequences of reforms undertaken in the post-Mao era. Instructor: Shi. One course. C-L: International Comparative Studies

325. **Comparative Government and Politics: Western Europe. CCI, SS** Modern political institutions and processes of European democracies: political parties, interest groups and parliaments; regional, religious, and class divisions; political participation and mobilization; relationships of state, society and economy; political, social and economic change in postwar Europe. Instructor: Kitschelt. One course. C-L: International Comparative Studies

326. **China and the World. CCI, SS** The formulation and development of Chinese foreign relations and foreign policy since 1949. The rationales of policy as well as organizational, cultural, and perceptual factors that influence Chinese foreign policy formulation. Instructor: Shi. One course. C-L: International Comparative Studies

331. **Prisoner's Dilemma and Distributive Justice. EI, SS** Economic, political, and philosophical perspectives on distributive justice and the problems in each discipline raised by variations on the prisoner's dilemma. Classic texts include Hobbes and Hume, Smith and Marx, Mill and Rawls. Gateway course to the Politics, Philosophy, and Economics certificate program. Joint course with the University of North Carolina-Chapel Hill so may be offered on both campuses during the semester. Prerequisites: Economics 21 and 22 or Economics 101 and Philosophy 207 or Political Science 223. Instructor: Brennan, Munger, or Rosenberg. One course. C-L: Economics 361, Philosophy 246, Information Science and Information Studies, Ethics Courses Offered Through Other Departments

332. **Conflict, Collusion, and Cooperation. QS, SS** Applications of modern decision theory to the study of political science. Topics include: individual decision theory and rational choice; game theory and human interaction; and social choice theory and the mechanisms by which individual choices are aggregated into collective choices. Political institutions such as voting rules, legislatures, parties, and hierarchy, alternative voting methods and political institutions, and how societies solve some practical distributive problems. Although course has no mathematical prerequisites, students should be willing to consider abstract models and follow logically rigorous arguments. Not open to students who have taken Political Science 671S. Instructor: Niou. One course.

332S. **Conflict, Collusion, and Cooperation. SS** Same as Political Science 352 except in seminar format. Instructor: Niou. One course.

344. **Environmental Politics in the United States. EI, SS, STS** Examine the role environmental issues play in the U.S. political system. Study the way ordinary citizens think about the environment: importance of
environmental concerns and how environmental issues influence voting behavior. Assess the role played by each of the major institutions in American politics - Congress, the president, the bureaucracy, the judiciary, state and local governments, political parties, and the media. Pre-requisite: any one field introduction taken at the 100 level. Instructor: Staff. One course. C-L: Environment 345, Public Policy Studies 281


346. Business, Politics, and Economic Growth. CCI, SS The historical origins of political institutions affecting economic growth across advanced capitalist countries in Europe, America, and East Asia: capital markets, labor relations, research and development policy, social policy; effect of globalization and technological change on these nationally diverse arrangements; global convergence of corporate governance, national divergence of labor relations, research and development policies, and social policies. Instructor: Kitschelt. One course. C-L: International Comparative Studies

347. Globalization and Domestic Politics. CCI, EI, R, SS Examines the economic and political consequences of integrating international markets for democracy. Will explore the political and ethical implications of various features of globalization including trade, outsourcing, mobile finance capital, reform of the welfare state, international and infra-national inequality, uneven economic development, regional integration, etc. Class will end with a consideration of political and policy challenges presented by globalizing markets. Instructor: Wibbels. One course.


348D. Non-State Actors in World Politics. R, SS, STS, W Same as Political Science 425 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Buthe. One course. C-L: Public Policy Studies 209D, Markets and Management Studies

349. International Business Government Relations. CCI, R, SS Overview of the organizational and strategic challenges of United States multinational enterprises in a globalized world economy and the social, cultural, and political reactions of host countries to United States firms. Instructor: Grieco. One course. C-L: Markets and Management Studies

350. Issues of International Political Economy. CCI, R, SS A comparative, cross-cultural and cross-national examination of international political economy issues centering on trade, money and finance, and to a lesser degree the multinational enterprise. Examination of international economic issues of concern to developed and developing countries. Prerequisite: Political Science 160. Instructor: Grieco. One course. C-L: Markets and Management Studies

351. Economic History and Modernization of the Islamic Middle East. CCI, CZ, SS, W One course. C-L: see Economics 306; also C-L: Islamic Studies

353. Comparative Democratic Development. CCI, SS Comparative study of democratic political institutions with emphasis on selected Asian, African, and Latin American nations. Instructor: Remmer. One course.


355. Comparative Health Care Systems. CCI, EI, SS One course. C-L: see Public Policy Studies 335; also C-L: Sociology 371, Global Health, Ethics Courses Offered Through Other Departments
357. **Civilians in Path of War. EI, R, SS** Major social science theories and ethical frameworks for understanding mass violence against civilians; prominent cases of such violence. Normative and legal restraints on killing of civilians; societal cleavages, goals of political leaders, guerilla warfare, effect of organizational or bureaucratic cultures, and regime type. Instructor: Downes. One course. C-L: Ethics Courses Offered Through Other Departments

358. **Globalization and Public Policy. R, SS** One course. C-L: see Public Policy Studies 212; also C-L: International Comparative Studies, Islamic Studies

359S. **Post-World War II Europe and East Asia: A Comparative Perspective. CCI, SS, W** The nations of contemporary Western Europe as a ‘zone of peace,’ a political-geographic space in which cooperation is highly robust and war is virtually unthinkable. The development of that zone in light of the persistence of major war in that area from the late fifteenth to the mid-twentieth centuries. The evolution of Western European politics and institutions since World War II (most importantly, the European Union); comparison with East Asia as another key region of the modern world that has not become a zone of peace but may be increasingly a zone of major conflict and even war. Instructor: Grieco. One course. C-L: International Comparative Studies

360. **Foundations of Modern International Politics. CCI, SS** Causal mechanisms that relate domestic and international politics as introduced through basic game-theoretic examples. How domestic politics can affect state behavior and how international politics can reverberate on domestic politics. Discussion of various problem areas such as security, economics, and nationalism by focusing on institutions and processes. How globalization and culture affect the structure and institutions that govern domestic and international interactions. No prerequisite, but Political Science 160 recommended. Instructor: Staff. One course.

361. **Force and Statecraft. EI, SS** The theory and practice of the use of force as an instrument of state policy in different historical periods and with different nations. Examines the ethical arguments and beliefs which have been fashioned in statecraft to justify or prohibit the use of force in international politics. Prerequisite: Political Science 160 or equivalent. Instructor: Feaver. One course.


362D. **International Security. EI, SS, STS** Same as Political Science 301 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Feaver. One course. C-L: Islamic Studies

363. **International Human Rights in World Politics. EI, SS** Investigate the question of how and to what extent the rise of international human rights norms and discourse have affected the theory and practice of state sovereignty. Examine if and how international human rights norms, such as political, social and economic rights entailed in the international bill of rights and the prohibitions on genocide and torture pose limits on governments' freedom of action and decision-making, domestically and in their interactions with others. Analyze the effect that international human rights procedures, such as international criminal courts, regional human rights bodies and UN have on the nature and actions of sovereign states. Instructor: Staff. One course.

364. **Political Geography of World Affairs. SS** Role of geography in politics. Introduction to the map and cartography as methods for the presentation of political ideas and data. Major topics: Demography: Global Public Health, population dynamics, infectious diseases, and disability adjusted life expectancy around the globe; Economic forces: inequality, income, wealth, petroleum consumption and production, world trade, and productivity; Politics: the role of territory, political and economic freedoms, international and domestic conflicts, crime as conflict, foreign aid of all sorts (economic, military, humanitarian). Instructor: Ward. One course.

365. **Foreign Policy of the United States. CCI, SS** Internal and external sources of American Foreign Policy, including the role of ethnicity, nationality, and distinct world views of Americans and other peoples. The formulation and conduct of American foreign policy in different historical periods with an examination of
foreign policy in the post-Cold War era and prospects for alternative futures. Instructor: Eldridge or Feaver. One course.

365D. Foreign Policy of the United States. CCI, SS Same as Political Science 304 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Feaver. One course.


368. Ethnic Conflict. CCI, R, SS An examination of ethnic conflict and discrimination in the United States, Africa, Europe, and Asia. Theories of ethnic identity formation, ethnic conflict, the role of ethnicity in politics, and the economics of discrimination. How ethnic conflict is likely to change in the next few decades. The impact of a freer trade environment and the increasing integration of the world economy on ethnic conflict. The effectiveness of international institutions like the United Nations and NATO in preventing the reoccurrence of tragedies like Rwanda. Instructor: Staff. One course. C-L: International Comparative Studies 322

369. International Conflict and Violence. CCI, R, SS, STS The various causes, processes and impacts of violent international and domestic social conflicts in international affairs. Emphasis on analyzing various factors that contribute to violence, including the impact of scientific and technological developments on war and the ethical arguments and beliefs associated with war making in different cultures. Analysis of those factors in various cultures that hinder or contribute to peace making and peace keeping following the termination of war. Instructor: Eldridge. One course.

370. War and Peace. CCI, R, SS Evaluation of the social science literature on the causes of war. Focus on theoretical and empirical works, using a variety of research strategies. Application of prominent theories of war to the analysis of several case studies. Course objectives: identification of strengths and weaknesses of the literature concerning the causes of war: definition of specific questions and issues for future research; and application of knowledge of causes of war to historical case studies. Required research paper involving case study. Instructor: Gelpi. One course.

370S. War and Peace. CCI, R, SS Same as Political Science 433 except in seminar format. Instructor: Gelpi. One course.

372. Power and Strategy in Reforming China. CCI, SS Institutions set the framework of rules and incentives that affect how people utilize resources in political and economic decision-making. Course studies the creation and evolution of Chinese and political and economic institutions from both the historical and theoretical perspectives. Topics include taxation schemes, granary systems, political participation, voting methods, political control mechanisms, community compact and local governance, and money raising methods. Course previously taught as Political Science 261S. Instructor: Niou. One course.

373. Introduction to American Political Thought. EI, SS Basic elements of the American political tradition examined through a critical analysis of the ethical and political issues and controversies that developed from its historical English roots to the present day. Instructor: Grant or Spragens. One course. C-L: Ethics Courses Offered Through Other Departments

374. Secularization and Modernity: Cross-Disciplinary Readings 1750-1914. ALP, CCI, CZ, EI, R One course. C-L: see English 285; also C-L: Sociology 348, German 376, Romance Studies 360, Literature 243

375. Classics of Western Civilization: The German Tradition, 1750-1930. ALP, CCI, CZ One course. C-L: see German 375; also C-L: History 268, Literature 247

376S. Distributive Justice. EI, SS Exploration of what constitutes a fair or just distribution of goods in society (e.g. whatever results from a free market; to each according to her needs: whatever distribution is to the advantage of the least advantaged.). Topics include the ownership of private property, egalitarianism, welfare state liberalism, socialism. Readings in political theory with emphasis upon contemporary theories. Instructor:
Charney or Spragens. One course. C-L: Public Policy Studies 234S, Ethics Courses Offered Through Other Departments

377S. Classical and Contemporary Political Theory. EI, SS Two courses. C-L: see Philosophy 384AS

378. Marx, Nietzsche, Freud. CCI, CZ, SS One course. C-L: see German 380; also C-L: Philosophy 286, Literature 280, Marxism and Society

378D. Marx, Nietzsche, Freud. CCI, CZ, EI, SS One course. C-L: see German 380D; also C-L: Philosophy 286D, Literature 280D

379S. Religion and Politics. CCI, EI, SS One course. C-L: see Public Policy Studies 229S; also C-L: Religion 274S

380S. Human Rights Activism. CCI, EI, R, SS One course. C-L: see Cultural Anthropology 235S; also C-L: Public Policy Studies 230S

381. Theories of Liberal Democracy. EI, SS Classic theorists, such as Locke, Rousseau, Mill, Tocqueville, Madison, and Marx, and contemporary theories of liberal democracy. Attention to the historical setting, the normative philosophical presuppositions, and the ethical and policy implications of the theories. Instructor: Grant or Spragens. One course. C-L: Ethics Courses Offered Through Other Departments

382. Politics and Literature. ALP, EI, SS The enduring questions of ethical and political issues and controversies as expressed in political philosophy and politics and as illustrated in literature. Comparative historical, literary, and philosophical analysis. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments

383. Gender and Political Theory. CCI, SS One course. C-L: see Women's Studies 365

384. Ancient Political Theory. EI, SS, W Ancient political philosophy, history, and drama emphasizing the comparison of ancient and modern democracy and the alternative ancient understanding of the conception of the individual and of society. Readings from Plato, Sophocles, Aristophanes, and Thucydides. Instruction is provided in two lectures and one small discussion meeting each week. Instructor: Grant. C-L: Classical Studies 420D. One course. C-L: Classical Studies 374, Ethics Courses Offered Through Other Departments

385. Ambition and Politics. EI, SS, W A theoretical examination of the role of ambition in politics, including works by or on Homer, Plato, Plutarch, Machiavelli, Shakespeare, Tocqueville, Nietzsche, and Hitler. Instructor: Gillespie. One course. C-L: Ethics Courses Offered Through Other Departments

386S. Film and Politics. ALP, EI, R, SS Selected film genres and films as they illuminate political behavior. Ethical issues and controversies raised by the making and contents of films. Inducts students into the ways research is conducted in the study of films and the generation and presentation of knowledge in the discipline. Instructor: Paletz. One course. C-L: Arts of the Moving Image 213

387. Multiculturalism and Political Theory. CCI, EI, SS Theoretical and normative issues arising in the multicultural context of modern societies: nationalism, ethnic revival, and identity politics, as they contest understandings and practices of democracy, cultural pluralism, the nature of cultural membership, individual and group rights, minority representation, citizenship, and questions concerning justice and the good. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments

388. Human Rights in Theory and Practice. CCI, CZ, EI, SS The nature and value of human rights; examining some major debates over their status and meaning and assessing the role which the idea of human rights has played in changing lives, practices, and institutions. Questions considered include: whether commitments to human rights depend on a belief in moral truth; whether the idea of universal human rights makes sense in a culturally diverse world; and what forms of social action are most likely to achieve respect for human rights. Instructor: Staff. One course. C-L: Public Policy Studies 231, Philosophy 262, Documentary Studies, Global Health, Ethics Courses Offered Through Other Departments

390-1. Special Topics in Political Theory. SS Topics in Political Theory. Topics vary from semester to semester. Instructor: Staff. One course.
390S-1. Special Topics in Political Theory. SS Special Topics in Political Theory. Same as Political Science 390-1 except in seminar format. Instructor: Staff. One course.
390-2. Special Topics in Political Institutions. SS Special topics in political institutions. Topics vary semester by semester. Instructor: Staff. One course.
390-4. Special Topics in Political Behavior and Identities. SS Special topics in political behavior and identities. Topics vary from semester to semester. Instructor: Staff. One course.
390S-4. Special Topics in Political Behavior and Identities. SS Special Topics in Political Behavior and Identities. Same as Political Science 390-4 except in seminar format. Instructor: Staff. One course.
390-5. Special Topics in Political Methodology. SS Special topics in political methodology. Topics vary from semester to semester. Instructor: Staff. One course.
390S-5. Special Topics in Political Methodology. SS Special topics in political methodology. Same as Political Science 390-5 except in seminar format. Instructor: Staff. One course.
390-6. Special Topics in Political Economy. SS Special topics in political economy. Topics vary from semester to semester. Instructor: Staff. One course.
390S-6. Special Topics in Political Economy. SS Special topics in political economy. Same as Political Science 390-6 except in seminar format. Instructor: Staff. One course.
391-1. Senior Independent Study in Political Theory. Individual non-research directed study in a field of special interest under faculty member supervision. Offered only in areas of study not otherwise provided in department course offerings and with the direct approval and sponsorship of a faculty member. Will not generally be offered unless student has first established an extensive record of work with the faculty member. Written permission of faculty member and detailed description of course of directed study required before contacting the Director of Undergraduate Studies for permission number. Fulfills a political theory course requirement. Instructor: Staff. One course.
391-2. Senior Independent Study in Political Institutions. Same as Political Science 391-1 except fulfills a political institutions course requirement. Instructor: Staff. One course.
391-4. Senior Independent Study in Political Behavior and Identities. Same as Political Science 391-1 except fulfills a political behavior and identities course requirement. Instructor: Staff. One course.
391-5. Senior Independent Study in Political Methodology. Same as Political Science 391-1 except fulfills a political methodology course requirement. Instructor: Staff. One course.
391-6. Senior Independent Study in Political Economy. Same as Political Science 391-1 except fulfills a political economy course requirement. Instructor: Staff. One course.
393-1. Sophomore/Junior Research Independent Study Political Theory. R Individual directed research under the supervision of a faculty member. Central goal is substantive research paper or report containing significant analysis and interpretation of a previously approved topic. Offered only in areas of study not otherwise provided in department course offerings and with the direct approval and sponsorship of a faculty member. Will not generally be offered unless student has first established an extensive record of work with the faculty member. Written permission of faculty member and detailed description of course of directed study
required before contacting the DUS for permission number. Fulfills a political theory course requirement.
Instructor: Staff. One course.

393-2. Sophomore/Junior Research Independent Study Political Institutions. R Same as Political Science 393-1 except fulfills a political institutions course requirement. Instructor: Staff. One course.


393-4. Sophomore/Junior Research Independent Study Political Behavior and Identities. R Same as Political Science 393-1 except fulfills a political behavior and identities course requirement. Instructor: Staff. One course.

393-5. Sophomore/Junior Research Independent Study Political Methodology. R Same as Political Science 393-1 except fulfills a political methodology course requirement. Instructor: Staff. One course.

393-6. Sophomore/Junior Research Independent Study Political Economy. R Same as Political Science 393-1 except fulfills a political economy course requirement. Instructor: Staff. One course.

430. Predicting Politics: Elections and Conflicts. QS, R, SS Learn modes of predicting political events and outcomes. Survey of ways that are used to predict US National Presidential and Congressional elections, as well as polls. During election years, will focus on active campaigns. Second half of course devoted to prediction of conflict outbreaks around the world. Students will develop their own data, models, and forecasts for political processes. Pre-requisites: 300 level course in the subfield as well as all general requirements in the major: Political Science 102, 175, and Statistics 101. Instructor: Ward. One course.

445S. Capstone Seminar: Russia -USSR-Russia: History of Communism. CCI, CZ, EI, R, SS One course. C-L: see History 467S; also C-L: Slavic and Eurasian Studies 420S

449. Politics, Philosophy, and Economics Capstone. R, SS Capstone course open only to students in the Politics, Philosophy, and Economics program. Integrates and synthesizes the analytical framework and factual studies provided in other PPE courses. Consent of instructor required. Instructor: Staff. One course. C-L: Economics 389, Philosophy 465

493-1. Senior Research Independent Study Political Theory. R Individual directed research under the supervision of a faculty member. The central goal is a substantive research paper or report containing significant analysis and interpretation of a previously approved topic. Offered only in areas of study not otherwise provided in department course offerings and with the direct approval and sponsorship of a faculty member. Will not generally be offered unless student has first established an extensive record of work with the faculty member. Written permission of faculty member and detailed description of research project required before contacting the DUS for permission number. Fulfills a political theory course requirement. Instructor: Staff. One course.

493-2. Senior Research Independent Study Political Institutions. R Same as Political Science 493-1 except fulfills a political institutions course requirement. Instructor: Staff. One course.


493-4. Senior Research Independent Study in Political Behavior and Identities. R Same as Political Science 493-1 except fulfills a behavior and identities course requirement. Instructor: Staff. One course.

493-5. Senior Research Independent Study in Political Methodology. R Same as Political Science 493-1 except fulfills a political methodology course requirement. Instructor: Staff. One course.

493-6. Senior Research Independent Study in Political Methodology. R Same as Political Science 493-1 except fulfills a political economy course requirement. Instructor: Staff. One course.

497S-5. Senior Seminar in Political Methodology. SS Special topics in political methodology; open also, if places are available, to qualified juniors who have earned a 3.0 average and obtain the consent of the instructor. Instructor: Staff. One course.
497S-6. Senior Seminar in Political Economy. SS Special topics in political economy; open also, if places are available, to qualified juniors who have earned a 3.0 average and obtain the consent of the instructor. Instructor: Staff. One course.

501S. Politics and Media in the United States. R, SS, STS, W The impact of the media of communication and new technologies on American political behavior, government, politics, issues and controversies. Development of critical interpretive skills and arguments as students write research papers assessing the media's political influence and effects. Instructor: Paletz. One course. C-L: Canadian Studies, Arts of the Moving Image, Policy Journalism and Media

502S. Understanding Ethical Crisis in Organizations. EI, R, SS One course. C-L: see Study of Ethics 562S; also C-L: Sociology 542S, Public Policy Studies 558S

503S. Crisis, Choice, and Change in Advanced Democratic States. CCI, SS Contributions of Marx, Weber, and Durkheim toward analysis of modern democracies. Examination of selected contemporary studies using these three perspectives to highlight processes of change and crisis. Unsettling effects of markets upon political systems, consequences of bureaucratic regulation, and transformation of sources of solidarity and integration in modern politics. Instructor: Kitschelt. One course. C-L: International Comparative Studies

504S. Comparative Ethnic Politics. CCI, CZ, SS Why and when ethnicity becomes a salient cleavage for political mobilization and the conditions under which ethnic collective action may take violent or non-violent forms. Approaches to the study of social identities; types of ethnic collective action, including non-violent (electoral participation and social protest) and violent ones (riots, rebellions, civil war, and terrorism); and main normative debates in favor and against ethno-cultural group rights. Comparisons include Latin America, Africa, Europe, and South Asia. Instructor: Trejo. One course.

505S. Race in Comparative Perspective. CCI, SS Comparative study of the way race is socially constructed in the United States, several European, Latin American, and other countries. The real effects of this social construction on the social and political lives of communities of color in these countries. Instructor: McClain. One course.

507S. Religion and Comparative Politics. CCI, SS The relationship between states, societies, and religious institutions in contemporary world politics. Theories that emphasize the explanatory role of religious ideas, religious market structures, and different socio-economic and political conditions. Major focus on Christianity (Catholicism, Protestantism and Evangelicalism) mostly in Latin America, Western and Central Europe, and the United States. Attention also to Islam and Hinduism in Africa, the Middle East, and India. Instructor: Trejo. One course.

508S. Public Opinion and Behavior. R, SS Several facets of the political behavior of mass actors in American politics. Likely topics include the factors that cause the type and amount of individual participation, mobilization by elites, ideology and information, partisanship, partisan stability and change, socialization, macro-level change, negative advertising, economic voting, issue evolution, and the effects of institutional changes (especially election rules) on voter turnout. Consent of Instructor required. Instructor: Aldrich or Hillygus. One course.

509S. Political Participation: Comparative Perspectives. CCI, SS The study of political participation through development of an understanding of relevant research methods. The effects of political culture on political participation. Popular participation and mobilization systems in liberal democracies and developing countries. Instructor: Shi. One course. C-L: International Comparative Studies 511S

510S. Collective Action and Social Movements. CCI, SS Seminar course will introduce students to two dominant paradigms in the study of contentious mobilization: economic theories of collective action and sociological theories of social movements. Study of dissident collective action in autocracies, democracies, and hybrid regimes (e.g. electoral autocracies). Explore contemporary movements including civil rights, ethnic and nationalist, religious, feminist, anti-abortion, peasant, and workers movements in Latin America, Western

511. Organized Crime in New Democracies. SS Purpose of course is to explore (i) the conditions under which transitions to democracy in poor and middle-income countries generate waves of organized crime and (ii) the conditions under which criminals embrace insurgent and terrorist actions to control states. Special attention given to the illegal trade of drugs, kidnapping for ransom, extortion, and to the plundering of natural resources. Students will be reading game-theoretic analyses and empirical research based on aggregate data, individual survey data, ethnographies and natural and field experiments. Instructor: Trejo. One course.

515S. Post War Europe, 1945-1968: Politics, Society, and Culture. CCI, CZ, EI, SS, STS One course. C-L: see History 537S

516S. Rule of Law. EI, SS An investigation, employing both historical and conceptual analysis, of the idea of the rule of law. Several classic and contemporary texts will be considered. Topics include: the nature of law; the relationship between law and morality; the relationship between the rule of law and politics; the role, if any, of the rule of law in facilitating social and economic development; and the ways in which the rule of law might be institutionalized in modern society. Permission of instructor required. Instructor: Knight. One course.

517S. Democratic Institutions. CCI, R, SS How constitution makers choose basic rules of the democratic game, such as the relations between legislatures and executives, the role of parties, electoral system, prerogatives of constitutional courts, and other important elements of democratic institutional design; the impact of such arrangements on various groups within the state, and the overall performance of democracies; durability of arrangements, the structuring of power relations among parties, and whether democratic institutions affect economic and social policy outcomes. Instructor: Kitschelt. One course.

518. The Politics of Health Care. EI, SS One course. C-L: see Public Policy Studies 635

519. The American Party System. SS Role of political parties and the party system in the origin and perpetuation of democratic politics. Critical evaluation of different theories and models of the origins, structures, and activities of American political parties and their contribution to maintenance of a democratic society. Development of original research or critical evaluation of research findings using an extensive array of evidence, including statistical estimation and formal modeling. Instructor: Aldrich. One course.

520S. Congressional Policy-Making. SS Lawmaking and oversight of the executive branch by the U.S. Congress. Committee, party, executive, and interest group roles. Instructor: Rohde. One course.


522S. Comparative Party Politics. CCI, R, SS The concepts, models, and theories employed in the study of political parties in various competitive democracies. Focus on advanced industrial democracies where there is a rich empirically oriented literature on this topic. The resurgence of democracy in developing areas and the role of party competition and democracies in these regions of the world. Instructor: Kitschelt. One course. C-L: International Comparative Studies 601S, Canadian Studies


543. Counterterrorism Law and Policy. EI, R, SS One course. C-L: see Public Policy Studies 504

544. 9/11: Causes, Response & Strategy. EI, SS, W One course. C-L: see Public Policy Studies 561

545S. International Environmental Regimes. EI, SS, STS Law, politics, and institutional design of international regimes created among nations to cope with environmental problems. Includes study of particular conventions and treaties (for example, acid rain, ozone, carbon reduction, biodiversity, Antarctica, regional seas, ocean dumping), and the environmental implications of international trade rules and regimes (for

546S. Assisting Development. R, SS, W One course. C-L: see Public Policy Studies 515S

548S. Theories of International Political Economy. SS Issues include politics of trade, finance, economic development, conflict and cooperation in the world economy, and causes and consequences of economic globalization. Both advanced industrialized and developing countries. Open to qualified seniors with consent of instructor. Instructor: Buthe. One course.


560S. International Relations Theory and Chinese Foreign Policy. CCI, SS Examines range of theories and conceptual approaches to the study of international relations to see how these may or may not work in explaining Chinese foreign policy and whether or not patterns of Chinese foreign policy require evaluation of theories. Instructor: Shi. One course. C-L: International Comparative Studies

561S. Problems in International Security. SS The impact of democratic political structures on state foreign policy behavior. Emphasis on the influence of democratic norms and principles on the use of force. Theoretical debates on the influence of democracy and the use of force, with attention to the methodological and statistical difficulties of both measuring democracy and estimating its impact on international politics. Prerequisite: a course in international relations or American foreign policy. Instructor: Staff. One course.

562S. American Grand Strategy. CZ, R, SS Study of policy that nations adopt to marshal their political, economic, military, technological, and diplomatic resources to achieve their national goals in the international environment they face, drawing on political science, history, public policy, law and political economy and other disciplines to achieve these ends. Course examines the history, current reality, and future prospects of American grand strategy. Consent of instructor required. Instructor: Feaver. One course. C-L: History 567S, Public Policy Studies 501S

563S. Public Opinion and American Foreign Policy. R, SS Course will focus on the relationship between American public opinion and U.S. foreign policy. Central areas include: the American public and coherent attitudes about US foreign policy; influence of American leaders and media in the formation of public opinion; how attitudes toward foreign policy issues influence American elections; and how public opinion influences American foreign policy behavior. Instructor: Gelpi. One course.

575S. Ancient Political Philosophy. CCI, EI, SS Intensive analysis of the political philosophy of Plato, Aristotle, and other ancient theorists. Research paper required. Instructor: Gillespie or Grant. One course. C-L: Classical Studies 571S, Philosophy 571, Ethics Courses Offered Through Other Departments

576. Politics and Philosophy of Self and Other. EI, SS Epistemological, ontological, ethical, and political dimensions of relations between self and other. Theorists may include Husserl, Merleau-Ponty, Levinas, Derrida, Adorno, Gadamer, Sartre, Foucault, and Bahktin. Instructor: Staff. One course.

577S. Nietzsche's Political Philosophy. CZ, EI, SS Study of the thinker who has, in different incarnations, been characterized as the prophet of nihilism, the destroyer of values, the father of fascism, and the spiritual source of postmodernism. An examination of his philosophy as a whole in order to come to terms with its significance for his thinking about politics. Instructor: Gillespie. One course. C-L: German 576S, Philosophy 537S

578S. Contemporary Theories of Liberal Democracy. EI, SS Reading and discussion of some of the most important theoretical conceptions of democratic ideals and purposes since 1970. Topics include social justice, individual rights and community, deliberative democracy, and the normative implications of moral and religious pluralism. Instructor: Spragens. One course. C-L: Ethics Courses Offered Through Other Departments
579S. Topics in Early Modern Political Thought from Machiavelli to Mills. CCI, R, SS Topics vary from semester to semester. Topics course. Instructor: Staff. One course. C-L: Philosophy 566S

580S. Social Theory and Social Practice. Comparison and critique of answers given by philosophers and social theorists to the questions: what can we know about society and what is the practical utility of that knowledge? Theorists and topics include Aristotelian, early modernity’s “new science of politics,” Marxist praxis, Weber’s “weltfreie” science, Mill's logic of the “moral sciences,” Comte's sociology, Mannheim's sociology of knowledge, behaviorism and its critics, the vocation of social science. Instructor: Spragens. One course.

581S. Heidegger. CZ, EI, SS An examination of the philosophy of Martin Heidegger from its phenomenological beginnings to its postmodernist conclusions with particular attention to its meaning for questions of identity, history, nihilism, technology, and politics. Instructor: Gillespie. One course. C-L: Philosophy 573S

582S. Contemporary Ethical Theories. CZ, EI, SS One course. C-L: see Philosophy 503S; also C-L: Women's Studies

583S. Thucydides and the Realist Tradition. CCI, CZ, EI, SS Focus on Thucydides as a foundational text in the international relations tradition of realism. Issues include human nature; the relationship between self-interest and moral norms; conceptions of power; and motivations of justice. Readings will include Thucydides' History, selections from Hobbes' Leviathan, evidence from the post-Napoleonic and post-World War I periods, and modern interpretive studies. Instructor: Lewis. One course. C-L: Politics, Philosophy, and Economics

584S. Modern Political Theory. CCI, EI, SS A historical survey and philosophical analysis of political theory from the beginning of the seventeenth to the middle of the nineteenth century. The rise of liberalism, the Age of Enlightenment, the romantic and conservative reaction, idealism, and utilitarianism. Instructor: Grant or Spragens. One course. C-L: Ethics Courses Offered Through Other Departments

585S. Adversarial Ethics. EI, SS One course. C-L: see Philosophy 510S

586S. Political Thought in the United States. EI, SS American political thought and practice through the Civil War period. A critical analysis of the writing of our founders and their European antecedents. Focus on the philosophical and political debates and the underlying ethical and political issues found in the debates over the Constitution, slavery, and the Union. Instructor: Gillespie or Grant. One course. C-L: Ethics Courses Offered Through Other Departments

616S. Persistence and Change in Political Institutions. CCI, R, SS Persistence and Change in Political Institutions. International and domestic institutions in world politics; focus on causes and mechanisms of institutional persistence and change in comparative perspective. Examines, for instance, evolution of political-economic institutions under the impact of globalization. Instructor: Buthe. One course.


618S. Politics of Institutional Reform. R, SS Research seminar focusing on the political economy of institutional change with emphasis on less industrialized and emerging market nations. Open to undergraduates with permission of the instructor. Instructor: Remmer. One course.

619. Media and Social Change. CCI, R, SS, STS One course. C-L: see Public Policy Studies 676; also C-L: Russian 516, International Comparative Studies, Information Science and Information Studies, Policy Journalism and Media

631. Introduction to Deductive & Analytical Approaches to Political Phenomena. R, SS Introduction to deductive and analytical approaches currently used to study political phenomena, with focus on fundamentals of non-cooperative game theory. Students will become good consumers of applied game theoretic research as well as be able to develop some simple game theoretic models of political phenomena. Required of all incoming graduate students. Instructor: Leventoglu or Niou. One course.

632. Computational Political Economy. QS, R, SS Introduction to the field of computational modeling. Emphasis on conducting formal replicable investigations of political phenomena with clearly defined...
assumptions and hypotheses. Study of current literature in cognitive psychology, political psychology, and experimental economics. Instructor: DeMarchi. One course.

633S. Introduction to Positive Political Theory. R, SS Introduction to formal models in political science and a field of research that is at various times called political economy, positive political theory, formal theory, and public choice. Focus on three basic models that form the foundation of the field: individual choice, game theory, and social choice. Not open to students who have taken Political Science 352. Instructor: Aldrich or Niou. One course.

645S. Political Economy of Growth, Stabilization and Distribution. R, SS Examines why some nations are rich and others poor; whether financial crises are inevitable; whether economic growth reduces poverty, increases inequality, or both. Addresses extent to which answers to these questions are under human control. Instructor: Keech. One course. C-L: Economics 548S

646S. The Politics of European Integration. CCI, R, SS Politics and institutions of the European Union (EU) and the historical process that led to it. Theoretical perspectives discussed include classics of integration theory (neofunctionalism, intergovernmentalism) but also theories of state formation, delegation, and distributional politics (EU comparatively as instance of common political phenomena). Social constructivist, gender, and Marxist theories also considered. Research papers on process of European integration or contemporary EU politics. Instructor: Buthe. One course.

647S. International Democratization. EI, R, SS One course. C-L: see Public Policy Studies 513S

649S. Politics and Markets. R, SS Seminar on classics of political economy, exploring the relationship between economic markets and politics as treated in the works of Adam Smith, Marx, Polanyi, Schumpeter, Lindblom, and Hirsch, as well as contemporary works on globalization and its effects on domestic politics. Open only to seniors and graduate students. Instructor: Staff. One course.

660S. Theories of International Conflict. R, SS Social science literature review of the causes of international conflict emphasizing the theories concerning the causes of war. Objectives of course: to identify the strengths and weaknesses of the literature concerning the causes of war; to define specific questions and issues which must be addressed by future research; and to develop concrete research strategies for investigating these questions. Instructor: Gelpi. One course.

661S. Courts, Wars, Legacies of Wars. R, SS The impact of international wars, international policing, and domestic wars relating to national security on the United States courts of the Fourth Circuit (Maryland, Virginia, West Virginia, North and South Carolina), and the role played by these courts in the Mid-Atlantic South from the American Founding into the Cold War Era. The American Constitution, laws, and treaties of the United States, and principles of admiralty and international law which figure in assigned published and unpublished judicial decisions of the region's United States district and old circuit courts and of the post-1891 Fourth Circuit Court of Appeals. Research paper required. Also taught as Law 548S. Instructor: Fish. One course. C-L: History 562S

662S. Problems in International Politics. CCI, R, SS The development and critical analysis of various models in political science and economics that focus on the relationship between international economics and international security. Various models of the impact of political-military dynamics on international economic relationships, and the impact of international economics on the likelihood of war and peace among nations. Attention to the interplay between economics and security in a key region of the world—East Asia. Prerequisite: one course in international relations, foreign policy, or diplomatic history. Instructor: Staff. One course.

663S. Energy and U.S. National Security. CCI, EI, SS, W One course. C-L: see Public Policy Studies 583S; also C-L: Environment 583S

664S. Leaders, Nations, and War. CCI, R, SS, W The interaction between state structures and the international system, with a focus on the rise and development of European nations. Topics include war and its effects on national political institutions, nationalism, and state formation; war and national revolution;
imperialism and decolonization; and economic dependency and national autonomy. Research paper required. Prerequisite: Political Science 160. Instructor: Grieco. One course.

665S. Theory and Practice of National Security. R, SS, STS, W In-depth look at the theoretical and empirical literature explaining how states seek to guarantee their national security. Topics include: grand strategy, nuclear deterrence and warfighting, coercive diplomacy, military intervention, decisions for war, and civil-military relations. Special attention paid to U.S. national security during and after the Cold War. Consent of instructor required. Instructor: Feaver. One course.

667S. American Civil-Military Relations. R, SS Theory and practice of relations between the military, society, and the state in the U.S. Special attention paid to how civil-military relations play out in the use of force. Other topics include: public opinion, casualty sensitivity, and the role of the military in partisan politics. Consent of instructor required. Instructor: Feaver. One course.

668S. Theory and Practice of International Security. R, SS Analysis and criticism of the recent theoretical, empirical, statistical, and case study literature on international security. This course highlights and examines potentially promising areas of current and future research. No prerequisite, but Political Science 160 recommended. Instructor: Staff. One course.

669S. Theories of War and Peace in Twentieth Century Europe. R, SS Identify the ways by which history and political science can be used as complementary approaches to the study of the problem of war and peace among nations. Will review major works from the two disciplines that examine the same problem of how to explain the origins of World War I and World War II in Europe. Will also provide students with an opportunity to undertake and present a significant research project that integrates elements of the two disciplines. Instructor: Grieco. One course.

670S. Contemporary United States Foreign Policy. EI, R, SS One course. C-L: see Public Policy Studies 502S

675S. Economy, Society, and Morality in Eighteenth-Century Thought. R, SS Explorations of eighteenth-century topics with a modern counterpart, chiefly (a) self-interest, liberal society, and economic incentive; and (b) the passions, sociality, civic virtue, common moral sensibilities, and the formation of taste and opinion. Original texts: for example, Bacon, Newton, Shaftesbury, Mandeville, Hutcheson, Hume, Smith, Hogarth, Burke, Cato's Letters, Federalist Papers, Jane Austen. Stress on integrating economic and political science perspectives. Open only to seniors majoring in either political science or economics. Not open to students who have had Economics 312. Pre-requisites: Economics 205D; and Economics 210D. Instructors: De Marchi and Grant. One course.

676S. Hegel's Political Philosophy. EI, R, SS Within context of Hegel's total philosophy, an examination of his understanding of phenomenology and the phenomenological basis of political institutions and his understanding of Greek and Christian political life. Selections from Phenomenology, Philosophy of History, and Philosophy of Right. Research paper required. Instructor: Gillespie. One course. C-L: Philosophy 536S, German 575S

677S. Contemporary Continental Political Thought. EI, R, SS Exploration and assessment of the major theories (critical theory, hermeneutics, post-structuralism) and thinkers (Adorno, Habermas, Gadamer, Foucault, Derrida) of European political thought from World War II to the present. Themes addressed include alienation, power, liberation, social construction of identity. Research paper required. Instructor: Staff. One course.

690-1. Advanced Topics in Political Theory. SS Advanced topics in political theory. Instructor: Staff. One course.

690S-1. Advanced Topics in Political Theory. SS Advanced topics in political theory. Same as Political Science 690-1 except in seminar format. Instructor: Staff. One course.

690-2. Advanced Topics in Political Institutions. SS Advanced topics in political institutions. Instructor: Staff. One course.
690S-2. Advanced Topics in Political Institutions. SS Advanced topics in political institutions. Same as Political Science 690-2 except in seminar format. Instructor: Staff. One course.

690-3. Advanced Topics in Security, Peace and Conflict. SS Advanced topics in security, peace and conflict. Same as Political Science 690-3 except in seminar format. Instructor: Staff. One course.


690-4. Advanced Topics in Political Behavior and Identities. SS Advanced topics in political behavior and identities. Instructor: Staff. One course.

690S-4. Advanced Topics in Political Behavior and Identities. SS Advanced topics in political behavior and identities. Same as Political Science 690-4 except in seminar format. Instructor: Staff. One course.

690-5. Advanced Topics in Political Methodology. SS Advanced topics in political methodology. Instructor: Staff. One course.

690S-5. Advanced Topics in Political Methodology. SS Advanced topics in political methodology. Same as Political Science 690-5 except in seminar format. Instructor: Staff. One course.

690-6. Advanced Topics in Political Economy. SS Advanced topics in political economy. Instructor: Staff. One course.

690S-6. Advanced Topics in Political Economy. SS Advanced topics in political economy. Same as Political Science 690-6 except in seminar format. Instructor: Staff. One course.

POLITICAL INTERNSHIPS

The department administers an internship program, primarily in Washington, D.C., for political science majors and interested nonmajors. Students participate by qualifying for a position obtained by the department or by acquiring their own relevant employment, with or without compensation. Course credit can be obtained by enrolling in Political Science 292-1 or 292-2 and writing a substantive paper containing significant analysis and interpretation on a politics-related topic. Potential applicants should contact the internship director at any time, but preferably in the fall semester.

THE MAJOR

Major Requirements. Ten (10) courses for the major; this includes Political Science 130, Statistics 101, and Political Science 175 as the foundation requirements, three (3) courses in one subfield concentration within the major, two (2) courses in different subfields for breadth, and two (2) additional electives (at any level in any subfield).

Political Science 130 and Statistics 101 will introduce social science research methods; Political Science 175 will introduce political philosophy. A more advanced statistics course may be substituted for Statistics 101 with approval of the director of undergraduate studies.

The three (3) course subfield concentration requirement and two (2) courses for breadth are satisfied by selecting courses from the following subfields: Political Institutions; Political Economy; Security, Peace and Conflict; Political Behavior and Identity; Political Methodology; and Political Philosophy. An election must be made respecting courses bearing more than one field designation. Courses offered by visiting faculty, courses taken abroad, courses transferred from other universities, or special topics courses in which the content varies from year to year will be assigned subfields by the director of undergraduate studies.

The three (3) courses in the subfield concentration must include one (1) introduction in that subfield at the 100 level; one (1) intermediate course at the 300 level; and one (1) advanced course at the 400 or higher level.

Course levels are:

Political Science 100-199: Introductory courses in subfields and foundation courses. Students must take any one (1) subfield introduction listed at the 100 level before taking 300 or higher listings. They may, however, take 200 level courses without any prerequisite.
Political Science 200-299: Non-introductory courses with no prerequisite.

Political Science 300-399: Intermediate courses that require any one (1) subfield introduction course taken at the 100 level.

Political Science 400-499: Advanced undergraduate and capstone courses that require an intermediate subfield course taken at the 300 level in addition to meeting all of the general requirements of the major.

Political Science 500-699: Advanced undergraduate and introductory graduate courses.

New majors who wish to create an inter-field concentration made up of courses listed under different areas of concentration/fields or from different departments may do so in consultation with the director of undergraduate studies and their faculty advisor.

Of the ten (10) required political science courses, at least eight (8) must be Duke courses taught by a member of the Duke instructional staff. However, this requirement may be reduced to seven (7) courses if the student: (1) is engaged in political science courses in a year-long study abroad through either a Duke-administered or Duke-approved program, or (2) transferred to Duke after completing two undergraduate years at another institution.

In satisfying the requirements of the major, students in the Robertson Scholars Program may count, exclusive of transfer courses, as many as two (2) UNC-CH courses offered at a level below the 400 level at Duke.

Advanced Placement Credit. Advanced placement credits in political science (score of 4 or 5). These course credits are designated as Political Science 90A (American Government and Politics) and Political Science 90B (Comparative Government and Politics). Such credits are applied toward the thirty-four credits needed for graduation. Advanced placement course credits (20, 21) DO NOT satisfy course requirements for the political science major.

Suggested Work in Related Disciplines. Selected courses in such disciplines as anthropology, economics, history, philosophy, psychology, public policy, religion, sociology, and statistics are desirable.

Interdepartmental Major. For information on declaring an interdepartmental major, consult the chapter "Degree Programs" in this bulletin.

Departmental Graduation with Distinction

The department offers students majoring in political science an opportunity to achieve Graduation with Distinction in political science by the submission of an original research paper.

To be eligible for honors, students must have:

- Taken two courses in the subfield of your proposed research.
- Completed Political Science 130, Statistics 101 or better (Statistics 210 or the equivalent is recommended), the political theory requirement (Political Science 175 in most cases), and a minimum of six courses in political science.
- The statistics requirement may be waived if students are pursuing honors in the area of Political Theory.
- Have a minimum undergrad GPA of 3.3, and a major GPA of 3.5; this GPA must be maintained until graduation.
- Other requirements may be waived in rare cases by the Director of Undergraduate Studies.

The goal of honors in Political Science is an original research paper of journal length, which will be submitted to the Honors Thesis Committee by December 15 of each year. Journal length papers are between 25 and 35 pages in most cases, and the key criterion is that the paper must feature original research.

The Honors Thesis Committee will in most cases either accept or reject the paper for honors and the paper will be read by a minimum of two members of the committee. Rarely, a revision may be requested by the committee (to be conducted by the student in the spring semester and due by April 1). If at all possible, students should start working on their honors research the spring of the junior year and over that summer.

Students may begin their honors research by producing a quality, journal level paper in:
• a 400, 500 or 600 level political science seminar.
• an independent study.
• the department's summer research initiative: http://polisci.duke.edu/undergraduate/summer-research-initiative.

Often, the student will need to polish the paper during or after these options before submitting it to the Honors Thesis Committee.

In addition, beginning in Spring 2012 the department will staff a yearly course covering research design for juniors who are interested in pursuing the honors option. The course will not be required for honors; however, it will be designed to facilitate independent student research and the pursuit of the honors option. Students in the course will be expected to produce a research proposal (and a specific one; for example, an empirical proposal would detail the data to be used down to the selection of variables and an outline of the model). If students are at all unsure about their capacity to do independent research, we encourage them to take the research design course.

THE MINOR

Requirements. A minimum of five (5) courses in political science, at least two (2) of which are at the 300 or higher level. Four (4) courses must be Duke courses taught by a member of the Duke Political Science instructional staff, but one (1) course may be a transfer course. However, in satisfying the minor, students in the Robertson Scholars Program may count, exclusive of the transfer course, one (1) course taken at UNC-CH. Courses taken Satisfactory/Unsatisfactory and Advanced Placement courses DO NOT satisfy course requirements for the minor.

Politics, Philosophy, and Economics

Professor Munger, Director

A certificate, but not a major, is available in this program.

The Politics, Philosophy, and Economics interdisciplinary certificate program at Duke is designed to enable students to secure an understanding of the common foundations and the intersection of methods employed in normative inquiry by the three disciplines that make up the program. Political philosophy and political economy face similar questions and exploit common resources, and the alternative answers they provide to these questions are grounded in competing philosophical theories. Students intending to major in any of the three disciplines, or for that matter in any other discipline with an impact on public institutions and civil society, national and international governance, and economic development, will find the certificate's program of studies valuable.

The Politics, Philosophy, and Economics certificate program is composed of eight courses, including: two cross-listed courses, one that functions as a gateway to the certificate program, a second that figures as its capstone, and six other classes in economics, philosophy, and political science.

PROGRAM PREPARATION

Preparation for participation in the gateway course should normally include the following prerequisites: a) Economics 22, Introductory Macroeconomics, or Economics 101, Economic Principles, and b) Philosophy 207, Political and Social Philosophy, or Political Science 175, Introduction to Political Philosophy. However, students without this previous preparation may enroll in the gateway course with the permission of the instructor.

PROGRAM REQUIREMENTS

Eight specified courses distributed across the three disciplines in accordance with the table below, including gateway and capstone courses.

Gateway Course

All students in the certificate program must take the Politics, Philosophy, and Economics introductory course:
Political Science 331. Prisoner’s Dilemma and Distributive Justice (C-L: Economics 361, Philosophy 246)

**Capstone Course**

In the spring semester of their senior year, students must take the Politics, Philosophy, and Economics capstone course:

Political Science 449(C-L: Economics 389, Philosophy 465)

**Core Courses**

Beyond the gateway course, and prior to or concurrent with the capstone course, students must take a common core of microeconomics, rational choice, ethical theory/political philosophy, and the history of economic thought. The six courses will be chosen from three disciplines, according to the courses available in each semester, which are listed on the program website at [http://polisci.duke.edu/undergraduate/ppe-certificate/certificate-requirements](http://polisci.duke.edu/undergraduate/ppe-certificate/certificate-requirements). Of the six courses, two must be in economics, two in political science, and two in philosophy.

**Portuguese**

For courses in Portuguese, see Romance Studies on page 565.

**Psychology and Neuroscience (PSY)**

Professor Cooper, Chair; Associate Research Professor Rabiner, Director of Undergraduate Studies; Senior Lecturing Fellow Murphy, Associate Director of Undergraduate Studies; Professors, Asher, Bettman, Blumenthal, Brannon, Cabeza, Caspi, Chartrand, Cooper, Costanzo, Costello, Curry, DeBellis, Dodge, Fitzsimons, Flanagan, George, Groh, W. C. Hall, Hariri, Hoyle, Huettel, F. Keefe, R. Keefe, LaBar, Larrick, Leary, Levin, Lisanby, J. Lynch, Madden, March, Meck, Moffitt, Nicolelis, Nowicki, Palmer, Payne, Platt, Purves, Puttallaz, Rezvani, Robins, Roth, Rubin, Schmajuk, Sheppard, Sherwood, Siegler, Sikkema, Smith-Lovin, Spener, Strauman, Surwit, Swartzwelder, Thompson, Vidmar, Weinfurt, Whitfield, C. Williams, R. Williams, and Woldorf; Associate Professors Angold, Bennett, Bonner, Day, Fairbank, Fitzsimons, Gold, Guzeldere, Kay, Linville, Luber, Marsh, Mazuka, Shah, Wells, and Welsh-Bohmer; Assistant Professors Adcock, Bilbo, Compton, Covington, Diaz, Edwards, Egner, Fitzgerald, Fuemmeler, Gassman-Pines, Gibson-Davis, Harris, Joh, Linnenbrink-Garcia, Mead, Mitroff, Rosenthal, Smart-Richman, Wilbourn, Yin, and Zucker; Professors Emeriti, Coie, Eckerman, C. Erickson, R. Erickson, Kremen, Lockhead, H. Schiffman, and M. Wallach; Research Professor L. Wallach; Associate Research Professor Rabiner; Assistant Professor of the Practice Grimes; Adjunct Assistant Professor Serra; Research Associates Alexander, Batson, Jurkowski; Clinical Associate Whidby; Senior Lecturing Fellow Murphy; Research Scholar Carrig; Visiting Lecturer Vieth

A major or a minor is available in this department.

There are five areas within the major: Abnormal/Health, Biological, Cognitive, Developmental, and Social. Most courses are classified into one or more of these areas. For a complete listing of courses by area, check the Undergraduate section of the Psychology and Neuroscience website.

**89S. First-Year Seminar.** Topics vary each semester offered. Instructor: Staff. One course.

101. Introductory Psychology. SS, STS Broad survey of the field of modern psychology. The class includes a broad study of behavior with emphasis on biological, evolutionary, cognitive, and developmental perspectives while placing this work in its historical, social and philosophical context. Conceptual issues unifying the subfields of psychology are highlighted along with consideration of techniques and methods by which knowledge about the brain, mind, thought and behavior is acquired and refined. There is also discussion about the impacts on life and society of contemporary scientific approaches and technologies. Students are required to participate in psychological research. Instructor: Grimes/Murphy/Vieth/Staff. One course.

102. Cognitive Psychology: Introduction and Survey (C). SS Overview of cognitive processes including pattern recognition, concept formation, attention, memory, imagery, mental representation, language, problem
solving, and modes of thinking. The basic approach is both empirical (using data collection and analysis) and theoretical (building models using inductive/deductive reasoning). Application of basic laboratory results to cognition in everyday life. Students required to participate in psychological research. Prerequisite: Psychology 101 strongly recommended. Instructor: Cabeza, Day, Mitroff, or Rubin. One course.

103. Developmental Psychology: Introduction and Survey (D). SS Overview of the cognitive, social, and emotional changes that occur throughout the lifespan, with emphasis on the period from infancy to adolescence. Examines both the empirical evidence (data collection and analysis) and the theoretical models (constructs using inductive-deductive reasoning) used in understanding human psychological development. Required participation in psychological research. Prerequisite: Psychology 101 strongly recommended. Instructor: Joh, Wilbourn. One course.

104. Social Psychology (P,S). SS Effects of social interaction and social processes on a wide range of individual attitudes and behaviors (for example, conformity, leadership, prejudice, aggression, altruism). Emphasis on the logic, reasoning, research designs, and methods by which knowledge is generated. Equal attention to experimental and non-experimental research. Prerequisite: Psychology 101 strongly recommended. Instructor: Leary, Shah or Staff. One course.

105. Abnormal Psychology (A,P). CCI, SS This course provides a broad overview of abnormal psychology. Areas of focus include: Reviewing different theoretical perspectives for conceptualizing abnormal behavior; Approaches to the diagnosis and assessment of psychopathology; Major classes of psychopathology including how they are defined and treated; Current research in the field of abnormal psychology. There is a research participation requirement for this course. Instructor: Rabiner, Rosenthal, or staff. One course.

106. Biological Bases of Behavior: Introduction and Survey (B). NS, STS An introduction to the methods, models, and reasoning that have led to discoveries about brain-behavior relations, and a critical evaluation of the current theories that guide our thinking about the neurobiology, development and evolution of sensory and cognitive processes, sleep, pain, emotion, hunger, and thirst as well as maternal and sexual behavior patterns. Recommended background: AP Biology or strong Biology background. Psychology 101 recommended for Psychology majors. Instructor: Williams, Murphy or Staff. One course. C-L: Neuroscience 101

189FS. Psychosocial Development of the Mind Through the Life Course. CCI, SS The mind as it changes across the life span. The impact of environmental, cultural, interpersonal input during adolescence and early adulthood. Psychosocial and physiological influences on the mind and cultural differences in mind development. Role of mind in identity formation. Special attention to developmental changes and challenges in adulthood and late life. Compare and contrast age differences and age changes in psychosocial development of mind. Open only to students in the Focus Program. Instructor: Gold. One course. C-L: Sociology 189FS

190A. Duke-Administered Study Abroad: Special Topics in Psychology. Topics differ by section. Instructor: Staff. One course.

190FS. Focus - Special Topics Seminars. Seminar for students in Focus Program only. Content varies by semester. Different courses (and areas of psychology) indicated by section number. Instructor: Staff. One course.

193FS. Neurobiology of Mind. NS One course. C-L: see Neurobiology 193FS; also C-L: Neuroscience 193FS

201. Introduction to Statistical Methods in Psychology (G). QS Introduction to statistical methods used in psychological research. Topics in applied statistical methods: measures of central tendency and variability; probability and distributions; confidence intervals and hypothesis testing; t-test and analysis of variance; correlation and regression; chi-square tests. Calculate and interpret statistics referencing data and research questions typical in psychological research. Includes a lab section with instruction in management and analysis of data using statistical software designed for use in social science research. Required for the major. Prerequisites: two Psychology or two Neuroscience courses or one Psychology and one Neuroscience course. Instructor: Covington, Harris, or Hoyle. One course.
202. Statistical Methods for Data Analysis in Psychology. QS, R Second course in applied statistical methods for psychology majors. Introduction to psychometric methods and graphical methods of data analysis. In-depth coverage of analysis of variance, correlation, and multiple regression. Overview of multivariate statistical methods used in psychological research. Students analyze data of their choosing and report results in manuscript form for, or concurrent with, independent research in psychology. Includes a lab section with instruction in use of statistical software for data management, analysis, and presentation. Instructor: Hoyle. One course.

203. Practicum. Introduction to the research of a faculty member, often preparing the student for independent study. Format varies, including readings, data collection and analysis, discussions, or other activities. Term paper required in the form of an independent Study proposal using the department form for this purpose; does not oblige the student to take the independent study. Department consent required. Satisfactory/Unsatisfactory grading only. Does not count toward the major. Instructor: Staff. Half course.

205. Health Psychology and Behavior Change (A,S). SS The interplay of psychological, social, cultural and biological factors in health and disease prevention. Major topics include psychosocial and contextual influences on health and behavior; the design and evaluation of individual treatments and population interventions; stress and coping; psychosocial impacts of disease on patients and families. Emphasis on theory, research design, and causal inference. Students should have basic understanding of social science research methods. Instructor: Bennett, Sikkema. One course.

206. Alcohol: Brain, Individual, and Society (B, P). NS, R, SS, STS, W Multidisciplinary course exploring the impact of alcohol use on individuals and society. Integrated segments focus on: biomedical effects; addiction and treatment; historical context of drinking; and college drinking issues. Instructors: Rezvani or Swartzwelder. One course.

207. Child Clinical Psychology (D, P). SS The etiology and developmental course of major childhood psychological disorders. Practices of assessment, diagnosis, and treatment of childhood psychological disorders and the research that supports these practices. Emphasis on understanding interactions among individual child, family, and social factors in the etiology, diagnosis, and treatment of childhood psychological disorders. Prerequisite: Psychology 103 or 105. Instructor: Staff. One course. C-L: Children in Contemporary Society

208. Behavioral Medicine (P). SS, STS Overview of the interdisciplinary field of behavioral medicine, emphasizing the integration of the social and behavioral sciences in the service of understanding physical health and illness. Psychosocial risk factors for medical illness; biobehavioral mechanisms whereby psychosocial risk factors affect pathophysiology; and biobehavioral intervention to treat and rehabilitate patients with major medical disorders in interdisciplinary settings. Psychology 205 encouraged as a prerequisite, but not required. Instructor: R. B. Williams. One course.

209. Stress and Coping (P). SS Psychological theory and empirical work on stress and coping, with an emphasis on post-traumatic stress. Focus on the research designs, methods and reasoning by which stress is inferred and its effects assessed. Prerequisite: Psychology 99. Instructor: Keefe. One course.


211. Media and Health Communication. SS Major topics include the impact of media on health and behavior, use of mass, new, and social media strategies for health promotion, patient-provider communication, and the role of of culture in health communication campaign design. Students should have basic understanding of social science research methods. Instructor: Bennett. One course. C-L: Global Health Certificate 261

220. The Psychology of Gender (P). CCI, SS The psychology of gender in this country, including sex differences, separation and individuation, and achievement; sexuality; sex-roles; mental health problems particularly salient to genders: cultural influences on gender development and views within the field of psychology of gender. Instructor: Vieth. One course. C-L: Women's Studies
221. Personality (P), SS Theory and research dealing with the human personality, focusing on universal features of personality that are part of human nature, ways in which personality variables and processes differ across people, and the processes through which personality relates to thought, emotion, and behavior. Topics include personality traits, genetic and biological influences on personality, cognitive aspects of personality, motivation and emotion, self and identity, unconscious processes, personality measurement, and personality dysfunctions. Students required to participate in psychological research. Instructor: Curry, Leary, Fitzgerald. One course.

222. Motivation and Cognitive Influences in Social Psychology (P). SS Course details the important intersection of cognitive and motivational approaches within social psychology with emphasis on basic social psychological principles and theories that have emerged from this synergy. Explores how a "motivated cognition" approach to social psychology has influenced research on self-concept, self-regulation, achievement behavior, group and interpersonal processes, stereotyping and prejudice, among other fundamental topics and issues in the field. In addition to required midterm and final, students will be expected to actively participate in discussions and to present a more in depth analysis of weekly readings to class at least once during semester. Instructor: Shah. One course.

224. Self and Society (P). CCI, SS One course. C-L: see Cultural Anthropology 204; also C-L: Women's Studies

225. Political Psychology. CCI, SS One course. C-L: see Political Science 301

235. Human Development (D). CCI, EI, R, SS One course. C-L: see Human Development 224; also C-L: Sociology 224

236. Psychosocial Aspects of Human Development (D). CCI, EI, SS One course. C-L: see Human Development 260; also C-L: Sociology 260, Ethics Courses Offered Through Other Departments

237. Social Development (D,S). CCI, SS Examines children's social development from birth to age twelve. Attention to influences of family, peers, schools, television on aspects of social development including emotional attachments, self-concept, achievement motivation, sex-role development, social competence, aggression, and moral development. Throughout, attention is also given to major theoretical perspectives (psychoanalytic, ethological, behavior-genetic, cognitive, social learning, ecological/cultural), research methodology, and applied and policy implications of research. Readings focus on children and families from diverse cultural backgrounds. Prerequisites: Psychology 103, Psychology 104, or Psychology 221. Instructor: Asher. One course. C-L: Children in Contemporary Society

238. Psychology of Ethnicity and Context (D). CCI, SS Focuses on children and families as they are shaped and impacted by race, culture, ethnicity, socioeconomic status, and community/neighborhood context. Aspects considered include: parental beliefs, expectations, disciplinary strategies, children's mental health and academic and career goals. Prerequisite: Psychology 103, recommended. Instructor: Staff. One course. C-L: African and African American Studies 248, Children in Contemporary Society, Global Health

239. Adolescence (D). SS Adolescent development, including identity formation, intelligence, sexuality, peer and parent relationships, vocational choices, drugs, and psychopathology. Theory and empirical findings. Emphasis on the methods and research designs that have led to an understanding of adolescent development. Required participation in service learning. Instructor: Grimes. One course. C-L: Children in Contemporary Society

240. Educational Psychology (C, D). CCI, EI, SS One course. C-L: see Education 240; also C-L: Children in Contemporary Society, Ethics Courses Offered Through Other Departments

241. Cross-Cultural Perspectives on Human Development: A View From Modern Day Japan and Asia (C,D). CCI, SS Cross-cultural examination of issues in human development from an Asian perspective, especially from modern day Japan. Issues such as parenting, cognitive and social development, education, family, and aging will be evaluated from the perspectives of Japan and other cultures in Asia including China.

250. Myths and Mysteries of Memory (C). SS, STS Understanding the feats and failures of memory in everyday situations. Exploration of the use and misuse of memory of interest across professions (e.g., medicine, law, advertising, education), via demonstrations, lecture, and readings. Topics include repression, how to study exams, remembering names, early childhood memories, amnesia, photographic memory, eyewitness testimony, and pharmacological effects. Instructor: Marsh. One course.

251. Learning and Adaptive Behavior (B, C). NS Principles of instrumental learning in animals and humans. Topics include elicitation, classical conditioning, reinforcement, punishment, problem solving, behavioral economics, and verbal behavior. Focus on empirical data, quantitative analysis, research methodology, and technologies generated from learning research. Prerequisite: none, but some knowledge of quantitative science desirable. Instructor: Schmajuk. One course. C-L: Biology 268

252. Psychology of Thinking (C). SS, STS Overview of high level cognitive processes in both theoretical and applied areas. Emphasis on the research designs, methods, and reasoning for understanding how people engage in categorization, problem solving and decision making. The social implications of cognitive testing and an appreciation of the role of human factors in a technological age. Prerequisite: one previous psychology course. Instructor: Marsh or Serra. One course.

253. Human Memory (C). SS A review of the theoretical and empirical study of human memory. Emphasis on research designs, methods, and reasoning by which understanding is gained of memory across the life span. Topics include transient and short-term memories, models of memory, unconscious memories, and memory processes and tasks. Covers both data and theory, historical and contemporary research, behavioral and brain research. Prerequisite: Either Psychology 102 or 250. Instructors: Marsh, Rubin, or Serra. One course.

254. The Creative Mind (C). ALP, SS The nature of the creative thinking; the conscious and unconscious processes involved. Creativity in problem solving, sciences and math, the visual arts, literature, music, movies, theater, business, and destruction. Instructor: Schmajuk. One course. C-L: Information Science and Information Studies

255. Human Cognitive Evolution. NS, SS One course. C-L: see Evolutionary Anthropology 260

256. Psychology of Language (C). R, SS Examination of linguistic structures and their psychological "reality," language and cognition, biological bases, animal communication, language pathologies, nonverbal communication, linguistic universals, and bilingualism. Everyday language phenomena (for example, slips of the tongue) as well as experimental and theoretical research. Emphasis on the research designs, methods and reasoning by which the features of language are assessed. Research proposal required. Instructor: Day. One course. C-L: Linguistics 207

257. Introduction to Cognitive Neuroscience (B, C). NS The biological bases of higher brain function, including perception, attention, memory, language, emotion, executive functions and consciousness. Emphasis on human brain function at the macroscopic network-level, and the current theories and controversies in this rapidly growing field. Course is not recommended for Freshmen. Prerequisites (one of the following): Neuroscience 101/Psychology 106 or Psychology 102 or Neuroscience 201/Psychology 275, or Neurobiology 195FS or Psychology 195FS/Neurobiology 193FS/Neuroscience 193FS or permission of instructor. Instructor: Egner, LaBar. One course. C-L: Philosophy 249, Neuroscience 212

258. Decision Neuroscience. NS, SS, STS How new research in neuroscience, cognitive psychology, and behavioral economics shapes our understanding of decision making. Topics include functional organization of key brain systems, approaches to measuring and interpreting neuroscience data, methods for measuring decision-making behavior, economic and cognitive modeling, and impact of neuroscience on real-world decision-making. Emerging topics will include applications in policy, marketing, and finance. Prior coursework in neuroscience or decision sciences is strongly recommended. Instructor: Huettel. One course. C-L: Neuroscience 258
259. Early Cognitive Development (C, D). SS Conceptual development in humans from birth through early childhood. Topics include infants' and young children's perception of the world, their acquisition of knowledge about the world, and the way they remember and use this knowledge over time. Particular consideration given to the question of whether children's thinking about objects, living kinds, and persons involves general-purpose vs. specialized cognitive processes. Prerequisite: Psychology 102 or 103. Instructor: Staff. One course.

260. Psychological Anthropology (C, D, P). CCI, SS One course. C-L: see Cultural Anthropology 237

270. Biopsychology of Affective and Mood Disorders. NS, STS An exploration of the biological underpinnings of anxiety and affective disorders, including depression, bipolar disorder, and others. Current and historical treatments also discussed in terms of biological mechanisms and cultural influences driving treatment approaches. Prerequisite: Psychology 106 or Psychology 275. Instructor: Murphy. One course.

272. Memory and the Brain (B). NS Brain function in relation to the phenomenon of memory. Historical and current perspectives. Instructor: Swartzwelder or staff. One course.

273. Behavior and Neurochemistry (B, P). NS The role of brain chemicals (neurotransmitters, peptides, and hormones) in behavior. Hypotheses addressing the neurobiology of mental disorders and how they can be treated by pharmacological intervention. Emphasis on the development and critical evaluation of pharmacological models of brain function using mathematical and/or deductive/inductive models of reasoning and experimentation. Prerequisite: Psychology 101(RE), formerly 91. Instructor: Meck or staff. One course. C-L: Neuroscience 363

274. Drugs, Brain, and Behavior (B). NS One course. C-L: see Pharmacology and Cancer Biology 360; also C-L: Neuroscience 360

275. Fundamentals of Neuroscience (B). NS, STS Introduction to neuroscience: basic physiology; microstructure and anatomy of neural tissues; mechanisms of neuronal development and integration; sensory-motor control; auditory, visual, and olfactory systems; neural foundations of animal behavior; evolution of nervous systems. Emphasis on development and critical evaluation of neuronal theories of brain function using biochemical, mathematical, and/or deductive/inductive models of reasoning and experimentation. Prerequisites: Chemistry 101DL or equivalent; Neuroscience 101/Psychology 106 is required for Neuroscience majors; must have completed or be currently enrolled in Biology 201L or 202L; not recommended for first year students. Instructor: Bilbo or Meck. One course. C-L: Biology 224, Neuroscience 201

276. Brain and Behavior (B). NS *Introduces students to behavioral neuroscience—the study of how the brain generates behavior. Focus on detailed biological mechanisms underlying specific behaviors in many organisms, especially mammals. Topics covered include control of movement, sleep, learning and memory, motivation, emotion, and decision making. Prerequisite (one of the following): Psychology 106/Neuroscience 101, Psychology 275/Neuroscience 201, Psychology 195FS/Neurobiology 193FS/Neuroscience 193FS, Neurobiology 195FS. Instructor: Yin. One course. C-L: Neuroscience 211

277. Looking Inside the Disordered Brain (B, A). NS One course. C-L: see Neuroscience 277

278. Neuroethics. EI, NS, SS, STS One course. C-L: see Neuroscience 267; also C-L: Philosophy 353, Study of Ethics 269

279. Behavioral Neuroimmunology: Brain and Behavior in Health and Disease (B). NS An exploration of the interactions among the nervous, immune, and endocrine systems, and their consequences for neural function and behavior, using examples from both the human and animal literatures. Topics include the role of the immune system in cognition and emotions, neuroendocrine-immune interactions during stress, and the effects of stress on health and disease. The potential role of infections in the etiology of psychopathology (autism, schizophrenia) and neurodegenerative conditions (Parkinson's, Alzheimer's) will also be discussed. Prerequisite: one of the following: Psychology 106/Neuroscience 101, Psychology 275/Biology 224/Neuroscience 201, Biology 101L, or equivalent. Instructor: Bilbo. One course. C-L: Neuroscience 373

280. Social and Affective Neuroscience (B,C). CCI, NS, SS Understanding how individual, interpersonal, and intergroup behaviors are processed in the brain. Topics include neuroscience of self- and group identity,
self-regulation, social and affective communication, stereotyping, pro- and anti-social behavior, power motivation, group cooperation and competition, and cultural differences in emotion processing. Pre-requisites - one of the following: Psychology 195FS/Neurobiology 193FS/Neuroscience 193FS, Neurobiology 195FS, Psychology 106/Neuroscience 101, Psychology 257/Neurobiology 212/Philosophy 249), Psychology 275/Neurobiology 201/Biology 224. Instructor: LaBar, Harris. One course. C-L: Neuroscience 280

281. Neuroscientific Approaches to Social Behavior (B,C,S,P). NS, R Incorporates social psychological questions and cognitive neuroscience methodologies to answer questions of social behavior and neural function. Covers a variety of scientific methods commonly used in social psychology, cognitive neuroscience, cognitive psychology, philosophy, computer science, developmental psychology, evolutionary anthropology, behavioral economics, and behavioral neuroscience, among others. Surveys the more common of these methodologies, focuses on fundamental questions in the field, prepares the student for research that address social questions relative to the brain, and neuroscience questions influenced by social behavior. Prerequisite: Psychology 101 and 106 or 104. Instructor: Harris. One course. C-L: Neuroscience 281

290. Special Topics in Psychology - Lecture. SS Topics vary by semester and section from the areas of Psychology: Abnormal/Health, Biological, Cognitive, Developmental or Social. Consent of instructor and/or specific prerequisites may be required for specific offerings. Instructor: Staff. One course.

290A. Special Topics: Duke-Administered Study Abroad. Topics differ by section. Instructor: Staff. One course.

301. Research Methods in Psychological Science (G). R, SS, W Hands-on experience in designing and conducting research in psychology. Theoretical topics include experimental and non-experimental methods, including observational, archival, and case-study methods. Problems of validity and control. Using these theoretical tools, students review literature, design experiments, collect data, analyze data, and write papers on areas such as learning, cognitive science, sensation and perception, and social and psychology. Instructor: Cooper, Schwartz, or Staff. One course.

302. Brain Waves and Cognition (B, C). NS, R Combined lecture/lab course on the event-related potential (ERP) method and its use in cognitive neuroscience. ERPs--electrical brain waves triggered by sensory and cognitive events--provide a powerful means to noninvasively study the timing and sequence of the neural activity underlying cognitive processes. How ERPs are generated, recorded, and analyzed, how they are used to study cognitive processes, and their relationship to other measures of brain activity. Students gain direct experience with the method in the lab. Prerequisites: two of the following: Psychology 106, 102, 257 or 275). Prior course in statistics and proficiency with computers strongly recommended. Instructor: Woldorff. One course. C-L: Neuroscience 383

303. Functional Neuroimaging (B,C). NS, R Overview of use of functional magnetic resonance imaging (FMRI) in the investigation of human sensory, motor, and cognitive function. Topics will include FMRI to study human brain systems involved with movement, sensation, perception, and memory. Students will design and execute a neuroimaging experiment. Prior course in Statistics is strongly recommended. Consent of instructor required. Instructor: Huettel, Ditz. One course. C-L: Neuroscience 382

304. Child Observation (D). R, SS, W Introduction of research methods used to study children, with particular emphasis on observational techniques. Focus on developing proficiency in research methodology, becoming skilled at communicating research findings to other psychologists, and increasing knowledge and expertise with young children. Prior course in Statistics is strongly recommended. Junior and Senior only and consent of instructor required. Instructor: Grimes. One course. C-L: Children in Contemporary Society

Contemporary approaches to psychologically based research in health and mental health. Survey, laboratory, and/or narrative self-report methodologies. Class research projects. Prerequisites: Psychology 105. Prior course in Statistics is strongly recommended. Instructor: Blumenthal. One course.

An advanced course in the study of adult psychopathology. Lecture and readings emphasize psychological and neuroscience perspectives on disorders such as depression and schizophrenia. Readings are both textbook chapters and journal articles. Topics also include the logic of diagnostic systems, methodological and ethical issues in psychopathology research, integration across levels of analysis, and translating research findings into effective interventions. *This class satisfies the methods requirement for the Psychology major. Instructor: Strauman. One course.

308. Perception and the Brain. NS, R
Explores capacities and limitations of human sensory systems. How the sense organs detect objects and events and what brains then do with that information. Concentrates primarily on the visual system, with some forays into other sensory modalities. Prerequisites: Psychology 102 or 106. Prior course in statistics is strongly recommended. Instructor: Groh. One course. C-L: Neuroscience 378

One course. C-L: see Global Health Certificate 371

310S. Clinical Issues for the LGBTQ Community. CCI, SS
One course. C-L: see Study of Sexualities 235S; also C-L: Women's Studies 235S

311S. Coping with Catastrophic Events (P). R, SS, W
Impact, recovery process, and treatment techniques including psychological interventions focused on individuals, groups, and community. Instructor: Keefe. One course.

313. Contemporary Neuroscience Methods. NS
One course. C-L: see Neuroscience 376

321S. Personality and Individual Differences. SS, STS
Study of assessment of personality and cognitive-ability traits, and their influence on the life course. Topics include: assessment of personality traits; behavioral genetics; personality continuity and change across the life course; influence of personality traits and intelligence on health and status attainment. Prerequisite: introductory course work in psychological methods and statistics in the behavioral sciences. Instructor: Caspi. One course.

322S. Freud and Sexuality. CCI, R, SS
One course. C-L: see Women's Studies 372S; also C-L: Literature 260S, Literature 310S

336S. Issues in Language Development (C, D). CCI, SS, W
"Critical Period" in language development, the role of 'motherese,' infant speech perception, innovative word creation, telegraphic speech, bilingualism and second language learning, learning to read, language, cognition and culture, and language pathology. Focus on learning to critically evaluate empirical research papers from various areas of language development. Appropriateness of hypotheses, methodology and analyses, and whether or not the data the researchers gather warrants the conclusions they draw. Instructor: Mazuka. One course. C-L: Linguistics 336S, Children in Contemporary Society

337S. Infancy (C, D, S). R, SS
Critical analysis of research on perceptual, cognitive, social, emotional, and motor development in human infants. Existing models of development in these areas evaluated in light of recent experimental findings. Final projects integrating research findings across different domains, creating novel hypotheses and designing experiments to test these hypotheses. Prerequisite: Psychology 103, and one other psychology course. Instructor: Grimes or Joh. One course. C-L: Children in Contemporary Society

338S. Thought Without Language (B, C, D). NS
The nature of thought without language and the representational strategies employed by infants and animals when thinking about number and other seemingly complex subjects. Comparison of how infants and non-human animals solve similar problems in an effort to understand more broadly the type of cognition that is possible without language. Topics include infantile amnesia, serial memory, symbolic models, object permanence, imitation, theory of mind, causality, and tool-
use. Methods, models and reasoning whereby inferences are made about thought processes in animals and children. Prerequisite: Psychology 103 or 106. Instructor: Brannon. One course.

339S. Life Span Analysis of Social Relationships (D, P). CCI, R, SS, W The developmental changes that occur in social relationships (for example, parent, sibling, peer) across the life span; the differing roles these relationships play in the development of the individual. Particular attention given to understanding gender and ethnicity differences in the forms and functions of relationships. Prerequisite: Psychology 221 or 103. Instructor: Costanzo or Putallaz. One course.

350S. Thought in Action: The Origins of Human Tool Use (B, C). NS, R, SS, STS Current theory and empirical research on the cognitive bases of tool use in humans, non-human primates, and other animals. Animal cognition and behavior, evolutionary psychology, cognitive development, cognitive neuroscience, object-user interfaces from engineering, and impact on society from the early industrial age to the present. Prerequisites: Psychology 102, 103, 106 or equivalent. Instructor: Staff. One course. C-L: Evolutionary Anthropology 350S

351S. Cognitive Psychology of Oral Traditions (C). CCI, SS Oral traditions and collective memory studied in social contact. Impact of writing on oral literature and culture, on society and cognitive activities. Basic knowledge of cognitive mechanisms; examples of various oral traditions. Instructor: Rubin. One course. C-L: Linguistics 351S


353S. Medical Decision Making (C). SS, STS Various topics in medical decision making explored from the perspective of behavioral science: emotion and medical decisions; allocation of health care resources; adaptations to changing health states; cognitive shortcuts used by patients and care providers; communication and understanding of risk information; informed consent; and improving the quality of decision making. Prerequisite: include one of the following Psychology courses: 101, 102, 205, 208, 209, or 257, or consent of instructor. Instructor: Weinfurt. One course. C-L: Public Policy Studies 334S

354S. Emotion and Cognition (C, P). SS How emotion, whether generated from everyday experiences or clinical disorders (such as depression, posttraumatic stress disorder, schizophrenia) impact critical memory and cognitive processes; emphasis on both psychological and physiological models. Instructor: Staff. One course.

355S. The Psychology of Trauma and Memory (C,A,P). R, SS Critical examination of the empirical research on and theoretical assumptions and logic about memory for trauma in normal and clinical populations. Topics include claims and data concerning ongoing debates about accuracy, narrative coherence, involuntary versus voluntary memory, the effect of extremes of emotion on memory and the posttraumatic stress disorder diagnosis. Levels of analysis range from neural substrates, through behavior and thought processes to the social construction of memory and trauma. Prior course work in either cognitive or personality or clinical psychology is desirable. Instructor: Rubin. One course.

371S. Cognition in the Classroom: Applying the Science of Learning to Education. NS, R, SS An overview of the science of learning and memory, emphasizing applications to education. Cognitive psychology as related to topics such as study strategies, discovery learning, long-term maintenance of knowledge, metacognition, concept learning, individual differences across learners, and the skill of teaching. Prerequisite: prior course in cognitive psychology. Instructor: Marsh. One course.

372S. Neuroscience and Cognitive Aging (B, C). NS, R, W Theories of cognitive aging (emphasis on the psychobiological/neurobiological perspectives) focusing on processes of perception, attention, decision making, memory and movement through both text and journal readings. Neurological diseases of aging (i.e., Parkinson's disease, Alzheimer's disease). Focus on developing skills for scientific grant writing. Instructor: Jurkowski. One course. C-L: Neuroscience 472S
374S. **Human Sexuality (B).** NS, STS The biological, endocrinological, and physiological correlates of human sexual behavior including sexual differentiation, pubertal development, adult male and female sexual behavior, premenstrual syndrome, menopause, sexuality and aging, homosexuality, and deviant sexual behavior. Emphasis on the reasoning, research designs, and methods for understanding gender roles and sexuality. Prerequisite: Psychology 106/Neuroscience 101 or background in biology. Instructor: Staff. One course. C-L: Study of Sexualities

375L. **Functional Anatomy of the Human Brain.** NS, STS One course. C-L: see Neuroscience 380L

376S. **Behavioral Neuroendocrinology.** NS, W The adaptive functions and physiological mechanisms of hormone-brain-behavior interaction through an examination of research and models in the field. Empirical and theoretical papers on the hormonal modulation of reproduction, rhythms, sexual differentiation, mood, learning and memory; perspectives on topics ranging from clinical basic science, with consideration of ethical issues. Research paper required. Prerequisite Psychology 106/Neuroscience 101 and at least 2 other courses in Psychology, Neuroscience or Evolutionary Anthropology to provide background. Instructor: Williams. One course. C-L: Neuroscience 366S

390S. **Special Topics in Psychology.** Topics vary by semester and section from the different areas of Psychology: Biological, Cognitive, Developmental or Personality/Social. Consent of instructor and/or specific prerequisites may be required for specific offerings. Instructor: Staff. One course.

390SA. **Duke Administered Study Abroad: Special Topics in Psychology.** Topis differ by section. Instructor: Staff. One course.

393. **Research Independent Study.** R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Meets general requirement of a curriculum Research (R) course but does not fulfill major requirement for an advanced seminar or methods course. Junior year fall. Prerequisite: Two courses in Psychology. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

394. **Research Independent Study.** R See Psychology 393. Junior year spring. Prerequisite: Two psychology courses. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

405S. **Great Ideas in Psychology (C).** R, SS Ideas in psychology drawn from many content areas (including perception, personality, motivation, biological, social, cognitive, developmental, learning) and various methodological approaches (including experimental, introspection, observation, interview, longitudinal, computer simulation). Inductive/deductive approaches to psychology. Research paper required. Prerequisite: junior or senior psychology-major status and consent of instructor. Instructor: Day. One course.

406S. **Theoretical Issues in General Psychology (C, D, P).** SS Examination of theoretical and philosophical issues, such as relativism, the relation between mind and brain, and whether psychology is or can become a science, that cut across different areas of psychology. Emphasis on different views of the mind and what can be known about it. Instructor: Wallach. One course.

407S. **History of Modern Psychology (B, C, D, P).** SS, STS Major developments in psychology from the late nineteenth century to the present. Includes consideration of early experiments, William James, Freud and clinical psychology, behaviorism, Gestalt psychology, evolutionary thinking, psychological testing, Piaget, humanistic psychology, cognitive psychology, and questions about psychology's future. Instructor: Wallach. One course.

410S. **Community Based Prevention Intervention Research.** R, SS Theories, methods and evaluation of health promotion and disease prevention interventions. Emphasis on prevention intervention research and community based research methodology. Areas of focus: establish community partnerships, use of formative research in development of community interventions, prevention interventions, practical procedures for implementation, dissemination of findings, opportunities for translational research. Topics include HIV/AIDS, cancer, cardiovascular disease, reproductive health, psychiatric/mental health with domestic and international
relevance. Combines didactic presentations, discussion, research critiques and development of research proposal. Instructor: Sikkema. One course.

425. The Psychology of Consumers (C, P). EI, SS The psychology of consumers and ways of influencing consumer behavior. How knowledge of consumer psychology and behavior is used to develop marketing techniques. How to use consumer psychology in making business decisions; the ethical issues associated with consumer influence. Prerequisites: Prior course in Psychology. Instructor: Chartrand. One course. C-L: Markets and Management Studies

426. Social Psychology of Business (P). CCI, SS Application of social psychological principles to the understanding of how businesses respond to significant environmental change. Focus on multinational firms to allow for consideration of cross-cultural influences. Prerequisites: Psychology 104/Sociology 104 or a Markets and Management course. Instructor: Gerend and Bleak. One course. C-L: Markets and Management Studies

427S. Motivational Approaches in Social Psychology (P). R, SS Social psychology on motivation and its role in determining nature and consequences of self and social-regulation. Focus on research and theorizing on differing motivations underlying social behavior (such as the motivations characterizing stereotyping and prejudice as well as achievement behavior and interpersonal relationships). Prerequisite: Psychology 104 and either statistics or a psychological research/methods course. Instructor: Shah. One course.

435S. The Role of Race and Culture on Development (D, P). CCI, SS Critical examination of racial, cultural, and social influences on development of African American children in the U.S. Traditional and nontraditional theoretical and empirical approaches; issues surrounding children's cognitive, language, and psychosocial development, plus educational attainment explored from a socio-cultural perspective. Includes discussion of racial stereotypes, familial interactions, social policy, the media, and peer groups. Prerequisites: Introductory Psych, Developmental, Human Development, Research Methods courses. Juniors and Seniors only. Instructor: Wilbourn. One course. C-L: African and African American Studies 420S, Human Development

436S. Clinical Interventions with Children and Families (D, P). SS Study of techniques used by clinical psychologists to treat and prevent psychological disorders of childhood. Focus on a) understanding major types of clinical interventions, b) how clinical psychologists develop, implement, and evaluate interventions, c) ethical issues in treating children and families, d) integration of research and practice in the treatment and prevention of childhood psychological disorders. Enrollment limited to juniors and seniors. Prerequisites: Psychology 105 or 207, and a research methods course or statistics course. Instructor: Staff. One course.

451S. Emotions and the Brain (B, C). NS A broad perspective of the expanding field of affective neuroscience. How emotions are mediated in the brain. Overview of neural theories of emotion along with the relevant neuroanatomy and psychopharmacology, animal models of emotion, insights from human cognitive and clinical neuroscience. Emphasis on understanding the mechanisms by which emotion influences cognitive processes, including perception, attention, learning, and memory. Prerequisites: Psychology 102 or Psychology 106/Neuroscience 101, required and Psychology 273 or 275 preferred. Instructor: LaBar. One course. C-L: Neuroscience 451S

461S. Neurobiology of Learning and Memory (B, C). NS The literature on neurobiological mechanisms of learning and memory. Readings on important historical discoveries; studies on the processes whereby the brain encodes and stores information. Readings selected to integrate information from neuroanatomical, behavioral, neurochemical, and neurophysiological experiments related to memory. Prerequisite: Psychology 257, 275, 276 or Biology 223/Neuroscience 223 or permission of instructor. Instructor: Staff. One course. C-L: Neuroscience 461S

471S. Reward and Addiction (B). NS Biological and psychological mechanisms of reward and addiction from a "molecules to mind" perspective. Topics include: neural mechanisms of reward, vulnerability to addiction, self-medication, addiction as a learning process, animal models of addiction, gateway drugs, roles
of stress and impulsivity, adolescence, genetic vs. environmental predisposition, neural alterations resulting from drug intake. Prerequisite: Psychology 106 or Psychology 275/Biology 224/Neuroscience 201. Instructor: Schramm-Sapyta. One course. C-L: Pharmacology and Cancer Biology 471S, Neuroscience 471S

473S. The Neurobiology of the Pain System: Its Function and Dysfunctions. NS, R, W The physiological basis of the pain system and its role in everyday life. Pain system disorders and dysfunctions, such as phantom limb pain, chronic pain, and fibromyalgia are discussed in terms of biological mechanisms and the perceptions and experiences of patients. Practice reading and writing scientific papers. Prerequisites: Psychology 106/Neuroscience 101 or Psychology 275/Biology 224/Neuroscience 201. Instructor: Murphy. One course. C-L: Neuroscience 473S

474S. Biological Psychology of Human Development (B, D, P). R, SS, W Multidisciplinary perspectives bearing on key processes in human development from infancy through old age; the way that biological and psychological processes act together in normal and pathological behavior and development. Clinical case material and videotapes. Open to juniors and seniors only, preferably Psychology majors and students in the Program in Human Development. Instructor: Thompson. One course. C-L: Human Development

475S. The Neuroscience of Stress (B, C, A). NS Explores the impact of stressors, including environmental and social stressors, on brain function and behavior. Encompasses original experimental observations of adaptive responses to stress that range from molecular assessments to systems-level analyses. Research articles and text readings. Good Neuroscience background needed: Psychology 275/Neurobiology 201/Biology 224 or Psychology 276/Neuroscience 211 (Brain and Behavior), or prior approval from the professor. Instructor: Covington. One course. C-L: Neuroscience 465S

477S. Biology of Nervous System Diseases. NS One course. C-L: see Biology 421S; also C-L: Neuroscience 421S

490A. Duke Administered Study Abroad: Special Topics in Psychology. SS Topics differ by session. Instructor: Staff. One course.

493. Research Independent Study. R See Psychology 393. Senior year fall. Prerequisite: Two psychology courses. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

494. Research Independent Study. R See Psychology 393. Senior year spring. Prerequisite: Two psychology courses. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

496. Graduation with Distinction Thesis Preparation Workshop I. Designed to help prepare students for writing of Graduation with Distinction thesis. (Restricted to distinction candidates.) Topics include: variation in experimental approach, design, and data analysis; thesis preparation using APA format; presentation of results for scientific conferences. Practical, science-writing workshops intermixed with research presentations by departmental faculty to provide different perspectives on methodology within the field. Satisfactory/Unsatisfactory grading only. Consent of director of undergraduate studies required. Instructor: Staff. Half course.

497. Graduation with Distinction Thesis Preparation Workshop II. Continuation of Psychology 496. Focus on completion and submission of Graduation with Distinction thesis. Satisfactory/Unsatisfactory grading only. For undergraduates only. Consent of department required. Instructor: Staff. Half course.

499S. Current Research in Neuroscience. EI, NS, R, W One course. C-L: see Neuroscience 499S

510S. Developmental Psychopathology. EI, R, SS, STS Examines emotional and behavioral disorders in childhood and adolescence from a developmental perspective. Issues addressed include biological, cognitive, familial, and social aspects of the disorders and relevant risk and protective factors. Open only to graduate students and advanced undergraduate students. Instructor: Curry.

575. Brain and Language (B, C). NS One course. C-L: see Linguistics 510; also C-L: Neuroscience 510

580. The Biological Basis of Music. One course. C-L: see Neurobiology 559; also C-L: Philosophy 559
590. Special Topics in Psychology. SS Advanced topics vary by semester and section from the areas of Psychology: Abnormal/Health, Biological, Cognitive, Developmental or Social. Consent of instructor and/or specific prerequisites may be required for specific offerings. Open to Undergraduate and Graduate/Professional students. Instructor: Staff. One course.

605S. Obesity and Eating Disorders (B, P). CCI, NS, R, SS A review of obesity and of the major clinical eating disorders (including binge eating disorder, bulimia nervosa and anorexia nervosa) and their pathophysiology, and their treatments. Prerequisite: Introductory Biology. Instructor: Surwit. One course.


607S. Personality, Stress, and Disease (P). SS, STS The interaction between person and social environment as a contributor to development of physical disease. Both epidemiological and laboratory-based research considered. Prerequisite: Psychology 205 for undergraduates and consent of instructor. Instructor: R. B. Williams. One course.

608S. Gender, Pain, and Coping (P). R, SS, W Examination of recent research on gender differences manifested in severity of pain, in healthcare seeking behaviors for painful conditions, and in responses to pain management interventions such as medications or self-help efforts. Exploration of gender-related factors, psychological, social, spiritual, cultural, and biological, which influence responses to persistent pain. Writing intensive seminar requiring student critiques of recent journal articles focused on sex and gender differences in the pain experience, as well as a review paper analyzing recent research in this area. Instructor: Keefe. One course.

609S. Psychosocial Determinants of Health. SS Provides an in-depth understanding of psychosocial determinants of health. Emphasis on the ways psychological factors interact with social, cultural, economic, and environmental contexts of health. Topics include impact of social integration, socioeconomic position, discrimination, health behaviors, and affective states on health outcomes. Students will gain competency through lectures, discussions, written work, and oral presentations. Prerequisite: Psychology 104 or 105, Research Methods. Open to Juniors, Seniors and Graduate students. Instructor: Richman. One course.

610S. The Psychology of Mindfulness Meditation: Theory, Research, and Practice. CCI, NS, SS Mindfulness meditation in relation to psychological and physical health. Traditional Buddhist teachings and contemporary Western perspectives on mindfulness. Survey of empirical research, including controlled trials and studies of basic mechanisms and processes through self-report, psychophysiological, and neuroimaging methods. Use of mindfulness practices in behavioral and other psychotherapies. Includes experiential learning through meditation practices in class and for homework assignments, as well as lecture and discussion. Readings mostly original journal articles and book chapters. Prerequisites: Psychology 102, 105, or 106 desirable. Open to graduate and advanced undergraduate students. Instructor: Robins. One course.

611S. Global Mental Health. CCI, NS, R, SS, STS One course. C-L: see Global Health Certificate 560S; also C-L: Cultural Anthropology 611S

625S. Motives, Goals, and Social Behavior (S,P). SS Covers a variety of topics involving the motivations underlying a variety of social behaviors (such as interpersonal relationships, stereotyping, and achievement) and the social and psychological processes involved when people try to regulate their own motives, thoughts, emotions, and behavior. Reading and discussion of literature on current theory and research on motivation, goal-directed behavior, and self-regulation. Instructor: Shah. One course.

627S. Stereotypes and Stigma (P). CCI, SS Experimental research in stereotyping and stigma; readings from psychology, public health, and sociological perspectives on issues related to ethnicity, gender, and social class. Consent of instructor required. Prerequisites: Psychology 104. Instructor: Richman. One course.

628S. Anthropology and Psychology (C, P). CCI, SS One course. C-L: see Cultural Anthropology 520S
629S. Social Behavior and Personality (P). R, SS Broad examination of current theory and research on the interpersonal, personological, and social cognitive influences on social interaction/behavior. Emphasis on: nature of social influence, function/ construction of the self, relationship formation/maintenance, aggression, altruism, personality-based mediators and moderators of social behavior, and application of social psychological theory/research to real-world issues. Methodologies discussed = experimental, quasi-experimental, narrative, observational, and correlational models. Prerequisite: Psychology 104 or 221, Psychology 305, and Statistical Science 101 or Psychology 201 or equivalent and consent of instructor for undergraduates. Instructor: Costanzo or Hoyle. One course.

655S. Children's Peer Relations (D). SS Examination of the empirical literature with emphasis on the functions that peers serve for children, the developmental course of these relationships, the clinical ramifications and possible explanations for inadequate peer relations (including an examination of the family's role), and interventions used to improve children's relationships with their peers. Regular opportunities to analyze, critique, and synthesize primary research literature. Consent of instructor required. Instructor: Asher or Putallaz. One course. C-L: Children in Contemporary Society

656S. Pediatric Psychology (D, P). SS The conceptual and methodological bases for the field. Emphasis on the reasoning, research designs, and methods implemented at the interface of behavioral and biomedical issues concerning health care for children. Case material illustrating how developmental, biological, and psychosocial processes act together in child health and illness. Focus on adjustment and coping with illness and treatments related to cystic fibrosis, sickle cell disease, cancer, diabetes, and seizure disorders. Consent of instructor required. Instructor: Bonner. One course. C-L: Children in Contemporary Society

657S. Developmental Behavior Genetics (D). SS Review estimates of the contribution of genetic and environmental variance to developmental concepts across the life span. Basic understanding of the statistical approach to behavioral genetics. Consent of instructor required. Instructor: Staff. One course. C-L: Genome Sciences and Policy

658S. Seminar in Emotion (D, P). SS Theories of emotion, covering biological, developmental, social, ethological, and cultural perspectives. Topics include facial and vocal expression of emotion, individual differences in emotion development, the role of emotion in social relationships, emotion and psychopathology, and emotion and physical health. Prerequisite: Psychology 104 or 114 and consent of instructor. Instructor: Staff. One course. C-L: Genome Sciences and Policy

659S. Nonverbal Cognition. Exploration of Nonverbal cognition in animals and human infants. Focus on nonverbal counting and the relationship between the representation of number, time, and space. Topics include animal cognition, developmental psychology, neuropsychology, and brain imaging to sketch a complete picture of how the mind represents number in the absence of linguistic counting. Upper level undergraduates may enroll with consent of the instructor. Prerequisite: Consent of instructor. Brannon. One course.

660S. Achievement Motivation. R, SS Course provides an in-depth look at the development of achievement motivation in educational settings (primarily elementary through college) from a psychological perspective. Addresses how students' responses to questions such as "Can I do this task?" and "Why do I want to do this task?" shape engagement and learning. Focus will be on how achievement motivation develops and what can be done to promote the development of adaptive forms of motivation. Course readings include an advanced text accompanied by theoretical and empirical journal articles. Instructor consent required. Prerequisites: Junior or Senior status and completion of PSY 103 or 104. Instructor: Linnenbrink-Garcia. One course. C-L: Children in Contemporary Society

665S. Autobiographical Memory (C). SS A review and critical analysis of the literature, theory, and empirical study of autobiographical memory within cognitive psychology. Emphasis on the reasoning, research designs, and methods used in examining autobiographical memory. Consent of the instructor required. Instructor: Rubin. One course.
667S. Learning and Cognition in Humans, Animals, and Robots. NS Connectionist theories of human and animal learning and cognition applied to robotics. Neural network theories of classical conditioning; concepts of models of the environment, prediction of future events, redundancy reduction, competition for limited capacity short-term memory, mismatch between predicted and observed events, stimulus configuration, inference generation, modulation of attention by novelty, and timing. Neural networks of operant conditioning; concepts of goal-seeking mechanisms, response-selection mechanisms, and cognitive mapping. How neural network models can be used to develop psychological theories, models of the brain, and robots. Instructor: Schmajuk. One course. C-L: Information Science and Information Studies

668S. Everyday Cognition (C). SS Selected cognitive processes (e.g., encoding, retrieval, representation, information load) and how they work in everyday settings. Cognition in classrooms, courtrooms, hospitals, grocery stores, jobs, athletics, and dance. Special focus on medical cognition, courtroom cognition, and memory for movement. For each setting, successful vs. mediocre performance, task analysis, errors, experiments, applications. Presentations by the instructor, students, and specialists from the everyday world (e.g., pharmacists, judges, choreographers). Instructor consent required. Instructor: Day. One course.

669S. Affective Neuroscience (B, C). NS A critical examination of current theory and experimental research related to neurobiology of emotional information processing and emotion-cognition interactions. Topics range from animal studies to clinical disorders, including neurogenomics, social cognition, functional brain imaging, emotional learning and memory, neuroethics, and individual differences. Basic background in neuroanatomy and cognitive neuroscience expected. Consent of instructor required. Prerequisites: Psychology 257 or Psychology 275. Instructor: LaBar. One course. C-L: Neuroscience 669S


671S. Disturbances in Eating and Body Experience Across the Lifespan. R, SS Study of atypical and typical development of conscious somatic sensation, i.e. how individuals sense and understand body signals and how extremes of sensitivity may form part of the core phenomenology of disorders such as anorexia nervosa, pediatric obesity, and autism spectrum disorders. Study of detailed narratives of patients have served as a springboard for novel hypotheses about human function. Readings alternate between primary journal articles to patient memoirs and narratives. Students interview patients struggling with eating disorders, children who binge eat, and children with high functioning autism, among other clinical conditions. Juniors, Seniors and Graduate students. Instructor: Zucker. One course.

672S. Cognitive Neuroscience of Memory (C). NS Research on the neural correlates of memory in humans. Neuropsychological studies with brain-damaged patients and functional neuroimaging studies with healthy individuals. Cognitive neuroscience models of memory, including episodic memory, working memory, semantic memory, priming, and procedural memory. Prerequisite: Psychology 102 or Psychology 106/Neuroscience 101, and consent of instructor. Instructor: Cabeza. One course. C-L: Neuroscience 672S

673S. Computer Models and the Treatment of Psychiatric Disorders. NS, QS Introduce students to the use of computational neuroscience modeling for understanding the mechanisms involved in different psychiatric disorders (e.g., anxiety, substance abuse, post-traumatic stress disorder). In the context of computational models, we will then analyze behavioral interventions (e.g., exposure-based therapies) and pharmacological therapies (e.g., administration of haloperidol in the treatment of schizophrenia). Instructor consent required. Instructor: Schmajuk/Rosenthal. One course. C-L: Computer Science 673S, Information Science and Information Studies 673S, Pharmacology and Cancer Biology 673S

680S. Behavioral Physiology: Basic Systems (P). SS Organ systems review of physiology, emphasizing the role of the central nervous system and behavior in physiological function. Emphasis on the research designs, methods, and reasoning by which the physiology of behavior is understood. Prerequisite: Psychology 106 or 474S for undergraduates and consent of instructor. Instructor: Surwit. One course.

681S. Genetics and Environment in Abnormal Behavior. EI, NS, SS Introduce students to an emerging topic in behavioral science: the interaction between genes and environments. Evaluates research showing that
genes influence susceptibility to the environmental causes of abnormal behavior, and research showing that genes' connections to behaviors depend on environmental experiences. Readings are primary journal articles. Topics include the design and analysis of genetic research into mental disorders, and ethical issues stemming from genetic research into human behavior. Prior coursework in statistics/research methods, genetics, and/or abnormal psychology is desirable. Consent of instructor required. Instructors: Caspi and Moffitt. One course. C-L: Genome Sciences and Policy

682S. Exploring the Prefrontal Cortex (B). NS, R, W Review and critical analysis of current and historical perspectives on functional neuroanatomy of the prefrontal cortex. Discussion is informed by anatomical, neuropsychological, neurological, neuroimaging, animal models, and computational approaches. Open to juniors and seniors majoring in Psychology or Neuroscience, and to graduate students. Instructor consent required. Instructor: Egner. One course. C-L: Neuroscience 682S


685S. Biological Pathways to Psychopathology (A(P),B,C). NS Introduces students to emerging methodologies for understanding the biological pathways of psychopathology. Evaluates research showing that the integration of psychology, neuroimaging, pharmacology and genetics can illuminate specific biological pathways that help shape risk for and emergence of psychopathology. Readings are primary journal articles. Topics include the design and analysis of multimodal research (fMRI, PET, pharmacology, molecular genetics) examining the biological underpinnings of behavioral traits relevant to psychopathology. Prerequisite: Psychology 277/Neuroscience 277 or Instructor consent required. Instructor: Hariri. One course. C-L: Neuroscience 685S

690S. Special Topics in Psychology. Topics vary by semester and section from the different areas of Psychology: Biological, Cognitive, Developmental or Personality/Social. Consent of instructor and/or specific prerequisites may be required for specific offerings. Open to Undergraduate as well as Graduate/Professional students. Instructor: Staff. One course.

THE MAJOR
For the A.B. Degree

Major Requirements. Eleven courses in psychology are required for the major. The major is devised to provide breadth and depth, a small group course in psychology, and familiarity with the quantitative techniques and research methods used in psychology. Students with AP credit for Psychology 101 (an AP score of 5 is required) are encouraged to begin with one of the 100-level area survey courses. Please note that students who receive AP credit for Psychology 101 will need to complete a total of eleven courses in the major beyond Psychology 101. Thus, AP credit allows you to place out of Psychology 101, but does not reduce the total number of courses you must take.

For breadth the student is required to take Introductory Psychology (101) and at least two survey courses that cover major areas of the field. One of these survey courses must be Biological Bases of Behavior (106) or Cognitive Psychology (102), and one must be Abnormal Psychology (105), Developmental Psychology (103), or Social Psychology (104). Students seeking additional breadth may count up to four of these survey courses towards the major. Introductory Psychology is strongly recommended as the first course taken in the major as it provides a foundation for all other courses; the survey courses should be taken next as they provide a foundation for additional courses in each area.

For depth, the student is required to complete at least 3 courses in 2 areas where a survey course was completed. At least one course beyond the survey level must be in the biological or cognitive area and at least one must be in the abnormal/health, developmental, or social area. For example, if a student completed survey courses in the biological (106) and developmental (103) areas, at least 3 additional courses in the biological and developmental areas are required, with a minimum of one course in each area.
For instruction in small groups, the student is to take at least one seminar. It is recommended that the seminar be taken in an area where a survey course was completed.

For quantitative techniques, the required course is Introduction to Statistical Methods in Psychology (201). The course completed to satisfy this requirement will also count as one of the eleven courses required for the major. The following courses are also acceptable: Mathematics 342, Statistical Science 101, 102, 111, or 250. Other courses may be substituted only with advance permission of the director of undergraduate studies. Students who plan on taking courses in the Department of Statistics/Decision Sciences should consult with the director of undergraduate studies in Psychology & Neuroscience prior to enrolling in their initial statistics class. Please note that students may not use multiple introductory-level statistics classes to satisfy elective requirements.

For an introduction to research methods in psychology, each student will take Research Methods in Psychological Science (301), or one of the specialized research methods in the 301-315 series. Students are advised against enrolling in research methods prior to statistics.

Of the eleven courses required for the major at least nine must be taken in the psychology department at Duke; others, if approved, may count toward the 34 credits needed for graduation but will not count towards the major. Information is also available at http://psychandneuro.duke.edu/undergraduate.

For the B.S. Degree

The B.S. degree requires completion of all requirements for the A.B. degree plus additional courses in the quantitative studies and natural sciences. Students must complete at least two psychology courses that have an NS designation. The two required NS courses in psychology can count towards courses required for the A.B. degree or, if not used to meet A.B requirements, towards the five elective NS classes required by the B.S. degree.

For the additional quantitative studies requirement, students must take ONE of the following: Mathematics 112, or 122, or Statistical Science 210 or 340.

For the NS elective requirement, students must take FIVE elective courses selected from an approved list that meet the following criteria: (a) classes come from at least two departments, and (b) at least three of the five are at or above the 200 level. NOTE: Psychology NS courses not used to fulfill other major requirements (including up to two semesters of empirically-oriented independent study credit) may be counted toward the five, but courses cross-listed with Psychology and another department do not count as a second department. Additional research methods courses may be counted towards the elective requirement ONLY with prior approval of the Director of Undergraduate Studies in Psychology. A list of currently approved classes for the NS elective requirement can be found on the undergraduate section of the P&N web site.

THE MINOR

Requirements. Five courses in psychology including Introductory Psychology (101) and at least two survey courses that cover major areas of the field. One of these survey courses must be Biological Bases of Behavior (PSY 106) or Cognitive Psychology (PSY 102) and one must either be Abnormal Psychology (PSY 105), Developmental Psychology (PSY 103), or Social Psychology (PSY 104). At least one of the remaining courses must be beyond the survey level (i.e., above 106).

Independent Study

A program of individualized readings or an empirical research project may be carried out by arrangement with a faculty supervisor and enrollment in Psychology 393, 394, 493 and 494. Psychology 203 serves as an excellent introduction to independent study. A written plan of the program must be approved by the supervisor and the director of undergraduate studies. At most only one of these independent study courses may count toward the depth requirement, and only two may count toward the major.

Graduation with Distinction Program

The Graduation with Distinction Program is based on a special project that requires original empirical research, usually developed through participation in independent studies. With approval from the director of undergraduate studies, a critical analysis of a problem in the field based on an extensive literature review may
be substituted for an empirical research study. The project is to be summarized in a carefully written thesis to be the subject of an oral examination. The opportunity to write a thesis and qualify for Graduation with Distinction is open to those majoring or minoring in Psychology. It is also open to students in Program II with a relevant topic. Applicants must have an overall GPA of 3.0 and a GPA in Psychology of 3.5 without rounding by graduation. Psychology minors and Program II students must have 3.5 GPA in the major program of study. Independent study classes in Psychology are not included when calculating the GPA.

An application to the Graduation with Distinction Program should be submitted no later than the last day of classes of the second semester of the junior year, with the expectation that at least two semesters will be devoted to the project. The application must include names of the three people who will serve on the student’s committee.

Guidelines concerning Graduation with Distinction committees are as follows: 1) One member must be a core member of the Psychology faculty. 2) The second committee member must be either a core faculty member or hold a secondary appointment in Psychology. 3) The third committee member may be a graduate student, Psychology post doc or a faculty member who is not a member of the Psychology faculties.

Students who are accepted into the program will register for two of the courses listed 393, 394, 493, 494 in two consecutive semesters. Ordinarily, the same mentor will serve in both semesters. Candidates for Graduation with Distinction must also enroll in two half-credit classes, 496 and 497, focusing on the conduct of psychological research, ethics in research, professional opportunities, and especially science writing in order to prepare a quality thesis; this is typically done in students’ senior year. Near the end of the final semester, candidates should submit three copies of the thesis to their mentor. The student will then convene the faculty committee for an oral examination of the student and a decision as to whether the overall performance qualifies for Graduation with Distinction. An exceptional thesis combined with outstanding performance in Psychology may qualify a student for the Zener Award. Graduation with Distinction research projects will be displayed at the spring Psychology Research Poster Fair.

**Public Policy Studies (PUBPOL)**

Professor Kuniholm, *Dean*; Lecturer Rogerson, *Director of Undergraduate Studies*; Professors Agre (chemistry), Clotfelter, P. Cook, Darity, Dodge, Feaver (political science), Fleishman, Hamilton, Healy (environment), James, Jentleson, Korstad, Krishna, Ladd, McClain (political science), Munger (political science), Nechyba (economics), Merli, Mickiewicz, Price (political science), Sanders Schroeder (law), Sloan (economics), J. Vigdor, and Weiner (law); **Associate Professors** Balleisen, Conrad, Frankenberger, Mayer, Pizer, Peck, Pfaff, and Whetten; Assistant Professors Ananat, Bellemare, Bermeo, Brans, Carnes, Charney, Chen, Gassman-Pines, Gibson-Davis, Goss, Jeuland, Johnson, Kelley, Mohanan, Pearson, and D. Taylor; Professors of the Practice Bennett Brown, Cohen, Glenday, Harris, Joseph, Kelly, Lethem, Pomerantz, Shukla, Skloot Spengler, Stangl (statistics), and T. Taylor; Associate Professor of the Practice F. Fernholz; Research Professors Cook-Deegan and Vaupel; Assistant Research Professor Muschkin; Adjunct Professor Yaggy; Adjunct Associate Professor Pickus; Adjunct Lecturer Shoensfeld; Visiting Professors Gillis Oberschall, and Roselle; Visiting Associate Professors Krupp and Shanzer; Visiting Assistant Professors Sasser, Schewel, Tham, and Zanlada; Visiting Professors of the Practice Burness, Johnson, and; Lecturer Blount and Owen; Visiting Lecturers Angrist, Bliwise, T. Cook, Dancy, Elson, Emmett, R. Fernholz, Gergen, Hahn, Healey, C. Johnson, Kaufman, Martin-Staple, Moriarty-Lempke, Moses, McCorkle, Prak Saponara, Slawson-Kuniholm, So, Sud, Weddington and VanSant; Senior Research Scientists Vaupel, Rabiner, and Rosch; Research Scientists Babinski, Snyder-Fickler, and; Research Scholar E. Vigdor

A major is available in this department.

Courses in public policy are open to all students providing that any prerequisites are met.

**89S. First-Year Seminar.** Topics may vary each semester offered. Instructor: Staff. One course.

**120. Undergraduates Internship Requirement.** Field work in chosen policy area with pre-approval of the Internship Coordinator. Must submit approval form, five page memo, and self-evaluation form two weeks after
internship ends. Prerequisites: Economics 201D, Public Policy 155D, 301, 302, 303D/equivalent, Statistics 101, and approval from Internship Coordinator. Instructor consent required. Instructor: Staff.

121. Internship. For students working in a public agency, political campaign, or other policy-oriented group under the supervision of a faculty member. Prior consent of assistant director of internships, placement, and alumni and director of undergraduate studies required. Requires a substantive paper (or papers) containing significant analysis and interpretation. Satisfactory/Unsatisfactory grading only. Prerequisite: Economics 201D, Public Policy 155D, 301, 302, 303D/equivalent, Statistics 101, and approval from Internship Coordinator. Instructor: Staff. One course.

155D. Introduction to Policy Analysis. SS Basic concepts of analytical thinking including quantitative methods for assessing the probabilities of outcomes and appraising policy alternatives. Illustrated by problems faced by busy decision makers in government, business, law, medicine. Instructor: Kelley, Mayer, Taylor, or Vigdor. One course. C-L: Global Health

165. Introduction to the United States Health Care System. SS Overview of the key health policy issues in the United States. Topics include: (1) sources of morbidity and mortality; (2) access to health care; (3) financing of health care including an overview of how health insurance works, Medicare and Medicaid and why there are uninsured persons and to what effect; (4) quality of health care; (5) the role of innovation in both treating disease and influencing costs; (6) mental health, including why drug and alcohol treatment is generally considered to be a mental health service; (7) the role of non-profit versus for-profit ownership of health care facilities and to what effect; (8) long term care; and (9) the impact of social phenomenon such as income inequality, social class and culture on health care. Instructor: Taylor. One course.


182. Public Speaking: Policy Advocacy and Communication. W Theoretical and practical understanding of the elements of effective advocacy, especially as applied to policy issues. Focus on oral communication (both formal public speaking and interactive exchange), written exposition, and presentation skills. Emphasis on the human dimensions of the communication process-voice and body behavior, audience evaluation, focus, control and self-awareness. Identifies techniques for minimizing communication distraction, developing confidence in presentation situations, and analyzing informational requirements. Does not apply toward public policy studies major. Instructor: Frey. One course.

183FS. The Genome and the Internet: Growing Up Together (seminar for Genome Revolution Focus cluster). EI, SS One course. C-L: see Genome Sciences and Policy 191FS

184FS. Synthetic Genomics: Science, Policy and Ethics. EI, NS, SS, STS Explore both the science behind synthetic genomics as well as related policy and ethical issues raised by these new advancements. Begins with examination of science of synthetic genomics, focusing on key experiments, and integrates discussions on policy and ethical issues as the scientific field matured. Readings will include scientific publications, bioethical reports, government reports, and popular press. Open only to students in the Focus Program. Instructor: Haga. One course. C-L: Genome Sciences and Policy 138FS

190FS. Focus Program Introductory Special Topics in Public Policy. SS Introductory and basic topics in public policy. Topics vary each semester. Does not count for public policy studies major. Open only to students in the Focus Program. Instructor: Staff. One course.
201A. Environmental Policy in Europe: Duke in Berlin. CCI, SS One course. C-L: see Political Science 295A; also C-L: German 320A, International Comparative Studies

201S. Global Russia. CCI, CZ, EI, SS One course. C-L: see Russian 399S; also C-L: Cultural Anthropology 399S

202. Law, Culture, and the Russian Legal Tradition. CCI, CZ, EI, SS One course. C-L: see Russian 353; also C-L: International Comparative Studies

203. The 1960s: History and Public Policy. CZ, R, SS One course. C-L: see History 378

204A. Political Philosophy of Globalization. CCI, CZ, EI, SS One course. C-L: see Philosophy 237A; also C-L: Political Science 297A

205. United States Foreign Policy I: From World War II to Vietnam War. CCI, CZ, EI, SS Basic assumptions about international interests and purposes of United States foreign policy and the means by which they have been pursued from the origins of the Cold War to the war in Vietnam. Focus on crucial operational premises in the 'defining moments' of United States diplomatic history. Policy-making models, politics of foreign policy, global environment within which United States policy is made, and uses of history. Special attention to the origins of the Cold War and the Vietnam War. Instructor: Kuniholm. One course. C-L: History 375

206. United States Foreign Policy II: From Vietnam War to the Present. CCI, CZ, SS Examination of basic assumptions about international interests and purposes of United States foreign policy and the means by which they have been pursued from the end of the Vietnam War to the Clinton administration. Focus on crucial operational premises in the "defining moments" of United States diplomatic history. Various policy-making models, politics of foreign policy, global environment within which United States policy is made, and uses of history. Special attention to the Cold War, the Arab-Israeli wars, and the Gulf War. Continuation of Public Policy Studies 205 (recommended but not required). Instructor: Kuniholm. One course. C-L: History 376

207. Development and Africa. CCI, CZ, SS One course. C-L: see African and African American Studies 307; also C-L: Cultural Anthropology 307, International Comparative Studies, Marxism and Society

208S. Language and Politics: Eurasian Perspectives. CCI, SS One course. C-L: see Linguistics 471S; also C-L: Slavic and Eurasian Studies 484S, Sociology 471S


209D. Non-State Actors in World Politics. R, SS, STS, W One course. C-L: see Political Science 348D

210DA. Berlin Since the War. CCI, CZ One course. C-L: see German 366A

210S. Doing Good: Anthropological Perspectives on Development. CCI, EI, R, SS One course. C-L: see Cultural Anthropology 428S; also C-L: International Comparative Studies 401S

211S. Contemporary International Policy Issues. CCI, R, SS Surveys several issues displaying different forms or policy responses in various geographical regions and cultures. Examples include: competition over energy resources, design of international organization, trends of human migration, privatization of security, and patterns of economic inequality. An interdisciplinary approach with attention to political, economic and social patterns. The goal is to introduce international policy issues that remain unsolved, while understanding how present-day relationships and policies are shaped by the past. Particularly useful for students looking for international topics for honors theses or other research projects. Instructor: Johnson. One course. C-L: Political Science 225S

212. Globalization and Public Policy. R, SS How the various aspects of globalization affect, and are affected by public policy at the international, national and local levels. Development of an analytic framework for thinking about globalization and its core concepts, major institutions and political dynamics; survey of a range of major policy areas affected by globalization; focus on a policy area of particular interest. Instructor: Jentleson. One course. C-L: Political Science 358, International Comparative Studies, Islamic Studies
213S. Cold War Texts: Politics, Propaganda and Pop Culture. ALP, CCI, EI, SS One course. C-L: see Linguistics 472S; also C-L: Slavic and Eurasian Studies 434S, Sociology 472S

214FS. Law and Globalization in Emerging Markets. CCI, SS One course. C-L: see Russian 214FS; also C-L: International Comparative Studies 277FS

214S. Law and Globalization in Emerging Markets. CCI, SS One course. C-L: see Russian 214S; also C-L: International Comparative Studies 277S

216S. The U.S. Border and its Borderlands. CCI, CZ, EI, SS, W One course. C-L: see Canadian Studies 350S; also C-L: Latin American Studies

225S. Women in the Public Sphere: History, Theory and Practice. CCI, SS, W One course. C-L: see Women's Studies 385S

226. Anthropology and Public Policy. CZ, EI, SS One course. C-L: see Cultural Anthropology 340

227S. Animals and Ethics: Welfare, Rights, Utilitarianism, and Beyond. CCI, EI, SS One course. C-L: see Women's Studies 270S

228S. Documentary and Policy: How Documentary Influences Policy. ALP One course. C-L: see Documentary Studies 272S; also C-L: Arts of the Moving Image 336S

229S. Religion and Politics. CCI, EI, SS Explore the appropriate relationship between religion and politics. Emphasize American politics but consider in relation to global politics. Topics include Constitutional law and separation of church and state: should there be a "wall of separation" or does such a wall discriminate against religion and impoverish politics? Faith-based initiatives, religious fundamentalism, liberal "public reason" and role of religion in public political debate. Readings from political theory, Constitutional law, and public commentary. Instructor: Goldman. One course. C-L: Political Science 379S, Religion 274S

230S. Human Rights Activism. CCI, EI, R, SS One course. C-L: see Cultural Anthropology 235S; also C-L: Political Science 380S

231. Human Rights in Theory and Practice. CCI, CZ, EI, SS One course. C-L: see Political Science 388; also C-L: Philosophy 262, Documentary Studies, Global Health, Ethics Courses Offered Through Other Departments


234S. Distributive Justice. EI, SS One course. C-L: see Political Science 376S; also C-L: Ethics Courses Offered Through Other Departments


242S. Children in Contemporary Society. R, SS One course. C-L: see Children in Contemporary Society 250S

243S. Children, Schools, and Society. CCI, EI, SS, W One course. C-L: see Education 243S; also C-L: Children in Contemporary Society, Ethics Courses Offered Through Other Departments

250FS. Law, Ethics & Responsibility. EI, SS, STS One course. C-L: see Linguistics 212FS

252. The Arts and Human Rights. ALP, EI, SS One course. C-L: see Cultural Anthropology 248; also C-L: Study of Ethics 261, Music 238
255S. Civic Engagement: Reflection and Transformation. CCI, CZ, EI, SS One course. C-L: see Religion 270S; also C-L: Study of Ethics 360S


258S. Science, Ethics, and Society. CZ, EI Two courses. C-L: see Philosophy 385AS; also C-L: Religion 282AS

259S. Women as Leaders. SS, W Explore the long history of women’s activism in the United States, and how that history has shaped current debates about women leaders. Explore the variety of ways that women exercise leadership—not just in party politics and corporations, but in neighborhoods, schools, and unions among other places. Learn about theories of leadership, and connect theory to practice through the process of exercising leadership on campus through a hands-on final project. Both men and women welcome in the class. Instructor: Seidman. One course. C-L: Marine Science and Conservation, Women's Studies

260. Leadership, Policy, and Change. EI, SS Ethical and practical issues of social and organizational change, including conflicts about power and authority, violence, gender, race, fairness, wealth and work. How imagination, fictional and historical narratives, anger, friendship, and teaching skills can be useful in working for change. Problems of group dynamics, integrity, responsibility, and self-understanding faced by those supporting or opposing changes. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments

262. The Politics of Civic Engagement. CCI, EI, SS This course explores ethical issues related to civic engagement by college students, their reasons for participating, the goals of the university in sponsoring their summer experiences, and the impact they had on the people and organizations they worked with. Students will read books and articles from different political perspectives on the value and appropriateness of civic engagement. Required discussion sections will allow students to share the challenges of their own engagement. Consent of instructor required. Instructor: Korstad. One course.

263. Border Crossing: Leadership, Value Conflicts, and Public Life. CCI, EI, SS, W Preparation course for students who plan to conduct community-based research projects in the summer through Service Opportunities in Leadership, or another research service learning opportunity. Through case studies of religious and political groups in U.S., Europe, and Middle East with conflicting views about the role of religious faith in public life, explores leadership as the art of working productively with difficult value conflicts in groups, institutions, and social systems. Includes training in basic research methods and ethics of human subjects research, completion of a 20-hour service project for a community organization, and exploration of a leadership framework for undertaking complex problem-solving work in the public arena. Instructor: Blount. One course. C-L: Marine Science and Conservation


264S. Critical Reflection and Adaptive Leadership in Complex Systems. EI, R, SS, W Capstone seminar for students completing community-based research (CBR) projects through Service Opportunities in Leadership Program. Involves critical reflection on summer projects, exploration of leadership, politics, and policy design concepts. Exploration, drawing upon students' experiences, questions, and insights as a starting point, of how lives of commitment to the common good are formed and sustained. Consent of instructor required. Instructor: Blount. One course.

265. Leadership, Development, and Organizations. EI, SS The central goal of Leadership, Development, and Organizations is to provide students with relevant insights, knowledge, analytical competence, and skills important to exercising ethical, enterprising leadership in organizations and informal groups. Instructor: Brown. One course. C-L: Markets and Management Studies, Marine Science and Conservation

participation. Skews based on gender, race, ideology, and class differences. Role of American interest groups and social movements in policy change. Influence of public policies (e.g., federal tax laws, participation requirements, programs such as AmeriCorps) on civic and political participation. Classroom discussion; short memos; and team-based "research service learning" component, consisting of research-based policy memo for Durham-area grassroots organization and 10 hours of direct service. Instructor: Goss. One course.

267. Leading as a Social Entrepreneur. EI, SS A dynamic introduction to social entrepreneurship and entrepreneurial leadership. Through this interactive class, students craft a personal leadership plan and learn how to develop a promising idea for social change. Instructor: Gergen. One course.

268. Animals and Ethics: Welfare, Rights, Utilitarianism, and Beyond. CCI, EI, SS One course. C-L: see Women's Studies 270

269. Twentysomething Leadership. EI, SS Provides students with knowledge, analytical competence, and skills important to exercising leadership as they navigate the transition from college to post-college life. Explores the many facets of leadership and leadership development during the period of emerging adulthood, particularly in understanding how values can be aligned with professional, volunteer, and personal leadership for the benefit of others and to enhance personal development. Instructor: Brown. One course.

270. Civic Participation and Community Leadership. EI, SS Explores ways in which value conflicts in communities affect civic and political participation, as well as policy design. Examines a series of questions about reinventing democracy at the grassroots. Challenges students to develop a framework of problem solving approaches and to consider diverse ways to exercise leadership in the face of competing interests. Instructor: Blount. One course. C-L: Ethics Courses Offered Through Other Departments

271S. Social Entrepreneurship in Action. EI, SS Social Entrepreneurship in Action is a leadership course in applied social innovation. The course provides students with knowledge, analytical competence, and leadership skills important to becoming a changemaker. The teaching method is interactive and experiential and assumes that the students are highly motivated to be part of an action learning community. Instructor: Brown, Gergen. One course. C-L: Markets and Management Studies, Marine Science and Conservation, Ethics Courses Offered Through Other Departments

272D. Historical Perspectives on Public Policy: The United States from 1945 to the Present. CZ, EI, SS Explores history of domestic and foreign policy in the United States from end of World War II to present. Illuminate how past decisions have helped to shape today’s policy environment. Cases studies on issues such as health, civil rights, the environment, taxation, foreign aid, and military force; identify what has worked and not worked in policy making. Weekly documentary film series and student-led discussion groups focused on differing interpretations of the nation's recent past. Instructor: Korstad, Peck, Kuniholm. One course. C-L: History 344D

275. United States Environmental Policy. EI, SS, STS, W One course. C-L: see Environment 212; also C-L: Energy and the Environment

276. Global Disasters: Science and Policy. NS, SS, STS One course. C-L: see Engineering 260; also C-L: Environment 260

277. Natural Catastrophes: Rebuilding from Ruins. NS, SS, STS One course. C-L: see Engineering 261; also C-L: Environment 262

278. North American Environmental History. CZ, EI, STS One course. C-L: see History 345

279S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding. CCI, EI, SS, W One course. C-L: see Environment 216S; also C-L: Political Science 367S, Islamic Studies, Marine Science and Conservation

280S. Marine Science and Conservation Leadership. EI, NS, SS, STS One course. C-L: see Environment 350S; also C-L: Marine Sciences, Marine Science and Conservation
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Course Type</th>
<th>Instructor</th>
<th>Prerequisites</th>
<th>Credits</th>
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<tbody>
<tr>
<td>281</td>
<td>Environmental Politics in the United States. <strong>EI, SS, STS</strong></td>
<td>One course</td>
<td>Staff</td>
<td>C-L: see Political Science 344; also C-L: Environment 345</td>
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<td>286S</td>
<td>Science and Technology Policy. <strong>SS, STS</strong></td>
<td>One course</td>
<td>Staff</td>
<td>C-L: see Environment 328S</td>
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<td>288</td>
<td>International Trade. <strong>CCI, SS, STS, W</strong></td>
<td>One course</td>
<td>Staff</td>
<td>C-L: see Economics 355; also C-L: Markets and Management Studies</td>
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<tr>
<td>289</td>
<td>Public Finance. <strong>QS, SS</strong></td>
<td>One course</td>
<td>Staff</td>
<td>C-L: see Economics 438</td>
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<tr>
<td>290</td>
<td>Selected Public Policy Topics. <strong>SS</strong></td>
<td>Instructor: Staff</td>
<td>C-L: Policy Journalism and Media</td>
<td>One course.</td>
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<tr>
<td>290S</td>
<td>Selected Public Policy Topics. <strong>SS</strong> Seminar version of Public Policy Studies 290</td>
<td>Instructor: Staff</td>
<td>C-L: Policy Journalism and Media</td>
<td>One course.</td>
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<tr>
<td>290S-1</td>
<td>Selected Topics in Public Policy. Satisfactory/Unsatisfactory grading only.</td>
<td>Instructor: Staff</td>
<td>Half course.</td>
<td>One course.</td>
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<td>294</td>
<td>Racial and Ethnic Economic Inequality: A Cross National Perspective. <strong>CCI, EI, SS</strong></td>
<td>Explorer origins and causes of differences in patterns of economic performance between ethnic and racial groups from a comparative perspective across the globe. Consideration of a variety of accounts for wide disparities in incidence of poverty and affluence across ascriptively differentiated groups, with particular attention to economic problems in ethnically or racially plural societies and use of various social policies to redress intergroup inequalities, including Malaysia's New Economic Policy, India's reservations system for scheduled castes, and affirmative action in U.S. and South Africa. Instructor: Darity. One course. C-L: African and African American Studies 244, Economics 248</td>
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<td>301</td>
<td>Political Analysis for Public Policy-Making. <strong>SS, W</strong></td>
<td>Analysis of the political and organizational processes which influence the formulation and implementation of public policy. Alternative models. Prerequisite: Public Policy 155D. Instructor: Goss, Hamilton, Jentleson, or Krishna. One course. C-L: Political Science 310</td>
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<td>302</td>
<td>Policy Choice as Value Conflict. <strong>EI, SS</strong></td>
<td>Theoretical and practical problems in decision making in relation to conflicts of value and of interest. The manifestation of norms deriving from professional ethics, ideology, law, and other sources in such policy issues as welfare, environmental management, and national defense. Prerequisites: Public Policy Studies 155D. Instructor: Buchanan, Charney, Korstad, Peck, or Pickus. One course. C-L: Ethics Courses Offered Through Other Departments</td>
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<td>302D</td>
<td>Policy Choice as Value Conflict. <strong>EI, SS</strong></td>
<td>Same as Public Policy Studies 302 except instruction is provided in two lectures and one small discussion meeting each week. Prerequisite: Public Policy Studies 155D. Instructor: Charney, Korstad, Peck, or Pickus. One course. C-L: Marine Science and Conservation</td>
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<td>303D</td>
<td>Microeconomic Policy Tools. <strong>SS</strong></td>
<td>Development and application of analytical economic tools in a policy environment. Emphasis on application of economic methods in a variety of policy settings and developing testable hypotheses that might be used to guide economic policy. Analytical topics include willingness to pay, derived demand, multi-market interactions, comparative advantage, investment analysis, and decision making under uncertainty. Applications include tax analysis, including incidence, effective protection, shadow pricing, introduction to government expenditures, labor market policy, examples of regulation and pricing externalities. Instructor: Ananat, Bellemare, Conrad, Hamond, or Ladd. One course.</td>
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<td>304</td>
<td>Economics of the Public Sector. <strong>SS</strong></td>
<td>Applies tools of intermediate micro economics to the public sector. Develops economic justifications for government intervention into the economy and examines and evaluates various government policies and programs including regulation of externalities, welfare programs, social security and other social insurance programs. Provides a solid foundation for applied benefit cost analysis. Analyzes tax policy and other forms of government financing, both at national and subnational levels. Prerequisites: Public Policy Studies 303D or Economics 201D. Instructor: Ladd, Ananat, Hamoudi, Pat. One course. C-L: Economics 338</td>
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<td>315</td>
<td>Gender and Law. <strong>CCI, EI, SS</strong></td>
<td>One course</td>
<td>Staff</td>
<td>C-L: see Women's Studies 401; also C-L: Literature 430</td>
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328. United States Racial/Ethnic Health Disparities: Social Determinants and Public Policy Implications. CCI, R, SS The most commonly used indices to measure United States health disparities by race/ethnicity; origins and evolution of racial/ethnic categories in the United States Census; role of poverty, racial residential segregation, and inadequate health care in explaining racial/ethnic health disparities; and the promise and limitations of academic-community partnerships and public policy initiatives designed to reduce and ultimately eliminate those health disparities. Instructor: James. One course. C-L: African and African American Studies 260


331. Health Economics. SS One course. C-L: see Economics 334


334S. Medical Decision Making (C). SS, STS One course. C-L: see Psychology 353S

335. Comparative Health Care Systems. CCI, EI, SS The interaction of historical, political, economic, cultural, legal/ethical, and sociological factors in the organization and operation of health care systems. Emphasis on how cultural values penetrate the social institutions (polities, economies) that determine health care policies and their reception by societal members. Effects of social and technological change on health care systems, comparing their effects across societies with differing histories, cultural values, and economic systems. Major focus on United States, England, Sweden, and other Western societies. Instructor: Taylor. One course. C-L: Sociology 371, Political Science 355, Canadian Studies, International Comparative Studies, Global Health, Ethics Courses Offered Through Other Departments

336S. Long Term Care Policy. SS The aging of the United States population, escalating expenditures, uneven managed care penetration in the Medicare and Medicaid markets, and unresolved public/private relationships; federal policy debates on social security and Medicare, state and local service strategies, and reform agenda for the future. Instructor: Taylor. One course.

364. Media and National Security. SS, STS The influence of political leadership, organizational factors in media structures, and the roles and norms of journalists. Change in the definition of security and rationales for military intervention, especially since the end of the Cold War. Parallel changes in media technology introducing the capacity for unmediated, live diffusion of images and tension, conflict, and emergencies. The increasingly important relationship between information and security as seen in controversies surrounding the coverage of terrorism. Instructor: Mickiewicz. One course. C-L: Visual and Media Studies 304, Policy Journalism and Media


366S. Magazine Journalism. SS, W Storytelling techniques of magazine journalism; historical and contemporary writing for magazines; and visual impact in print. Students develop experience in different kinds of magazine writing, collaborate on a magazine produced by the class, contribute to campus publications. Consent of instructor required. Instructor: Bliwise. One course. C-L: Visual and Media Studies 306S, Documentary Studies 356S, Policy Journalism and Media Studies

367S. News Writing and Reporting. R, SS, W Seminar on reporting and writing news and feature stories for newspapers. Students required to produce actual news stories every week, based on original reporting and writing, including interviews, use of the Internet and electronic databases, public records, and written
publications. Written assignments critiqued in class; final project. Consent of instructor required. Instructor: Rogerson. One course. C-L: Visual and Media Studies 307S, Arts of the Moving Image, Policy Journalism and Media Studies

371. News as Moral Battleground. EI, SS, W Ethical inquiry into journalism traditions and its effect on public discourse. Issues includes accuracy, transparency, conflicts of interest and fairness. Stories presenting special issues such as national security, reporting on vulnerable people and the privacy of public figures. New challenges in blogging, social media and the 24-hour news cycle. Instructor consent required. Instructor: Bennett (Fall), Cohen (Spring). One course. C-L: Documentary Studies

372. Information, Policy, and Ethics. EI, SS, STS The development of the Internet as a medium of communication and the policies and regulations that have emerged both internationally and nationally (in the United States). The political aspects of the access to information on the Internet and the more controversial issue of Internet content. Includes Internet monitoring project designed to encourage in-depth analysis in order to place the Internet in its historical context; contemporary political and social impacts of the Internet. Instructor: Rogerson. One course. C-L: Information Science and Information Studies, Policy Journalism and Media, Ethics Courses Offered Through Other Departments

373S. Intellectual Property: Law, Policy, and Practice. EI, SS, STS Survey and analysis of American intellectual property law and policy. Examines the impact of intangible assets--copyrights, trademarks, patents, and related rights and interests--on artistic expression, communication, and innovation. Emphasis on media-oriented issues including film, television, music, computer programs, and digital content, with special focus on the tension between the impulse to protect property interests and the need for an expansive public domain. Extensive readings in both case law and policy commentary. Instructor consent required. Instructor: Frey. One course. C-L: Policy Journalism and Media

374. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. ALP, CCI, STS One course. C-L: see Arts of the Moving Image 205; also C-L: Documentary Studies 270, Political Science 276, Visual and Media Studies 264

375S. Video for Social Change. ALP, CCI, SS One course. C-L: see Documentary Studies 271S; also C-L: Arts of the Moving Image 335S

376S. Telecommunications Policy and Regulation. SS, STS Broadcast policies, the rise of cable television, spectrum allocation and authorization, and developments in common carrier telecommunications. Instructor: Prak. One course. C-L: Arts of the Moving Image, Information Science and Information Studies, Policy Journalism and Media

377S. Medicine and the Vision of Documentary Photography. ALP One course. C-L: see Documentary Studies 206S; also C-L: Visual and Media Studies 204S


380. Politics of Food: Land, Labor, Health, and Economics. ALP, CCI, EI, R One course. C-L: see Documentary Studies 341S; also C-L: Cultural Anthropology 238S

381S. Science and The Media. SS, STS Technique and goals of science writing. Introduce different modes, publication outlets, and peculiar editorial demands of each. Making complex, nuanced ideas about science, health and related policy matters understandable to nonscientists in limited space and in engaging ways. Encompasses both deep and broad reading with attention to science stories as told by the best in the field, and
writing, on the readings, scientists and their science, and its significance to a public bombarded by, fascinated with and alienated from science. Instructor: Angrist. One course. C-L: Environment 364S, Policy Journalism and Media

382S. Narrative Journalism in the Digital Age. SS, STS, W Long-form journalism's decades-long ability to distinguish elite publications, attract great writers and produce stories that deepen readers' understanding of issues. Examination of journalism storytelling and the impact of new technologies in print, on television and online. Different forms of storytelling and the influence on what kind of issues and subjects receive attention. Production of original journalism required. Instructor: Bennett. One course. C-L: Policy Journalism and Media


384S. Global Democratization: Uses and Misuses of Ratings and Measurements. SS, STS Global expansion of democracy and how this trend is studied, analyzed, ranked and rated, with particular attention to organizations that employ methods of ranking and disseminate the results. Includes discussing the policy uses and consequences of these methods, the context and history of democratization and exploring current examples of democratic transition. Instructor: Mickiewicz. One course. C-L: Policy Journalism and Media

385S. Higher Education and The News Media. SS Analysis of content and methods of media coverage of major issues in higher education. Ways institutions try to shape (and respond to) media coverage. Includes a review of the history and distinctive characteristics of American higher education. Focus on a number of issues including finance, athletics, town-gown relations, academic freedom and political correctness, student culture, conflict of interest, rankings, scandals, globalization, and the impact of changing information technology. Instructor: Burness. One course. C-L: Policy Journalism and Media

386S. Muckraking to Data Mining: Reporting That Made a Difference. EI, SS Investigative reporting, like that which prompted a president to resign, new consumer safety laws and the release of wronged prisoners. Traces the evolution of investigative reporting through lens of stories which changed public policy. Fresh reading of original works. Follows changing methods and mores of investigative and watchdog reporting. Instructor: Cohen. One course. C-L: Policy Journalism and Media


389S. Small Town USA: Local Collaborations. ALP, CCI, R One course. C-L: see Documentary Studies 230S; also C-L: Visual Arts 232S, Visual and Media Studies 224S, Policy Journalism and Media Studies


391. Independent Study. Supervised reading in a field of special interest under the sponsorship of a faculty member. Requires a substantive paper containing significant analysis and interpretation. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.
395S. Children and the Experience of Illness. SS One course. C-L: see Documentary Studies 202S; also C-L: Visual and Media Studies 211S

396S. Documentary Engagement Through Field-Based Projects. ALP One course. C-L: see Documentary Studies 450S

397S. American Communities: A Photographic Approach. ALP, CCI, SS One course. C-L: see Documentary Studies 233S; also C-L: Visual Arts 217S, Visual and Media Studies 225S, Arts of the Moving Image, Policy Journalism and Media Studies


399S. The Photographic Essay: Narratives Through Pictures. ALP One course. C-L: see Documentary Studies 239S; also C-L: Visual Arts 241S

410. Policy Journalism and Media Studies Capstone Course. R, SS Capstone course for the Policy Journalism and Media Studies certificate. Course to be taken after the student completes an internship in a media organization. Designed to integrate student's practical experience with the more conceptual and theoretical knowledge gleaned from the classroom. Students meet in formal course setting to discuss what they have learned, present examples of the work they have accomplished culminating in a research paper. Course requirements include writing a major research paper that synthesizes ideas and concepts learned in coursework with the internship's practical experience and a class presentation about the student's internship. Instructor consent required. Instructor: Rogerson or Roselle. One course. C-L: Policy Journalism and Media Studies 410

411S. Human Trafficking: Past and Present. CCI, CZ, EI, R, SS Examines social and cultural history of human trafficking to North America from the Seventeenth century to the present, beginning with the organization of both the servant trade from Great Britain and the slave trade from Africa in the 1600s to the creation of sex trafficking in the late nineteenth and twentieth centuries. Instructor: Peck. One course. C-L: History 411S

412S. Capstone Seminar: Regulating American Business: Historical Perspectives. CZ, EI, R, SS, W One course. C-L: see History 477S

413S. Capstone Seminar: Immigration Policy History. CZ, EI, R, SS, W One course. C-L: see History 487S

450AS. Glasgow Seminar in Public Policy. CCI, R, SS Analysis of the British political system and important public policy problems in Britain including: privatization, Britain and the European community, and economic and social policy. (Taught in Scotland.) Prerequisite: Public Policy Studies 155D, two of the core courses (Public Policy Studies 301, 302, 303D or equivalent, or Statistical Science 101), and consent of director. Instructor: Staff. One course.

495S. Honors Seminar. R, SS, W Special research topics. Consent of the honors seminar instructor and director of undergraduate studies required. Instructor: Staff. One course.

496S. Honors Seminar. R, SS, W Continuation of Public Policy Studies 495S. Consent of the honors seminar instructor and director of undergraduate studies required. Prerequisite: Public Policy Studies 495S. Instructor: Staff. One course.

501S. American Grand Strategy. CZ, R, SS C-L: see Political Science 562S; also C-L: History 567S

502S. Contemporary United States Foreign Policy. EI, R, SS Focus on challenges and opportunities for American foreign policy in this global age including the impact of interests, ideals and values. Draws on both the scholarly literature and policy analyses. Addresses big picture questions about America's role in the world as well as major current foreign policy issues that raise considerations of power, security, prosperity and ethics. Open to undergraduates with permission of instructor and priority to Public Policy Studies and Political Science majors, and to graduate students. Instructor: Jentleson. C-L: Political Science 670S
503S. United States Policy in the Middle East. CCI, SS From World War II to the present with a focus on current policy options. Instructor: Kuniholm. C-L: History 509S, International Comparative Studies

504. Counterterrorism Law and Policy. EI, R, SS This course explores the novel legal and policy issues resulting from the United States' response to 9/11 attacks and the threat posed by modern terrorist organizations. Topics include preventative/preventive war; detention, interrogation, and prosecution of suspect terrorists; domestic surveillance; and government secrecy and public access to information. Instructor: Schanzer, Silliman. C-L: Political Science 543

513S. International Democratization. EI, R, SS Focus on critical analysis of international efforts to improve governance, build democracy and increase respect for human rights through a series of methods or tools: international law, sanctions, aid, conditionality, and a vast array of activities broadly labeled democracy promotion, including election assistance and civil society development. Class requires a high level of discussion and preparation for each meeting. Emphasis on student application of reading material to a particular country. Instructor: Kelley. C-L: Political Science 647S

515S. Assisting Development. R, SS, W Examines evolution of international development theory and practice since early 1950s. Investigates how different solutions advanced to deal with poverty have fared. Different streams of academic and policy literature, including economics, political science, and sociology, are consulted with a view to understanding what could have been done in the past and what should be done at the present time. Examines alternative formulations weekly in seminar format. Individual research papers (60% of grade) which analyze past and present development practices in a country of their choice, or examine trends within a particular sector (e.g., agriculture, population, gender relations, the environment). Instructor: Krishna. C-L: Political Science 546S

525S. Poverty Policy After Welfare Reform. EI, SS Will examine evidence on the effects of the 1996 welfare reform and study the piecemeal anti-poverty programs that have risen in place of traditional welfare. Will discuss how future poverty policies might address concerns that have risen in prominence since welfare reform, such as men as a neglected constituency and the challenges for low-income workers posed by technology and globalization. Familiarity with microeconomic principles will be helpful. Instructor: Ananat.

526S. Race and American Politics. CCI, SS C-L: see Political Science 525S; also C-L: African and African American Studies 544S

527S. Poverty, Inequality, and Public Policy in the U.S. SS, W Examines causes and consequences of poverty and inequality in the United States; reviews major social policies used to combat poverty's ill effects. Acquaint students with definition and extent of poverty and inequality, examine poverty's "causes", including family structure and low wage employment, discuss effects of poverty on family and child well-being, and analyze the primary poverty policies employed by the United States, including Temporary Aid to Needy Families, Food Stamps, Medicaid, and WIC. Lecture and class discussion, drawing on material from a variety of disciplines. Instructor: Gibson-Davis.

528. History of Poverty in the United States. CCI, CZ, SS C-L: see Study of Ethics 561; also C-L: History 546

529S. Race and Ethnicity. CCI, EI, SS Explores in depth policies of redress for intergroup disparities or inequality across countries. Examination of policies that attempt to systematically correct differences across racial/ethnic groups in income, wealth, health, rates of incarceration, political participation, and educational attainment, e.g. affirmative action, land redistribution, parental school choice, and income redistribution measures in a number of countries including India, the United States, Brazil, Malaysia, Chile, and South Africa. Address question of why intergroup differences in outcomes should be viewed as a social problem. Instructor: Darity. C-L: African and African American Studies 551S

530S. Gender, Identity, and Public Policy. R, SS The role of women and women's organizations as advocates for, and targets of, public policymaking. The grounding of women's collective action claims in understandings of women's "sameness as" and "difference from" men, and the implications of those frames for women's

531S. Philanthropy: The Power of Money. SS Seminar style course designed to deepen understanding of philanthropy and its role in American society. Course will cover Philanthropy's history, cultural origins, and influence on social policy. Students will learn how foundations work and issues they face to maintain legitimacy and efficacy. Not an introductory class. Permission required. Some experience in social sector required. Instructor: Skloot.

532S. Introductory Demographic Measures and Concepts. SS C-L: see Global Health Certificate 530S

542S. Schooling and Social Stratification. CCI, SS This course will examine educational policies in a comparative, cross-national fashion with a focus on the implications for the construction of social hierarchy and inequality. Instructor: Darity. C-L: African and African American Studies 549S, Education 542S

544S. Schools and Social Policy. R, SS Overview and selected current policy issues related to K-12 education. Includes small-group research projects that require data analysis, literature searches, and interviews with education policy makers. Consent of instructor required. Instructor: Ladd. C-L: Children in Contemporary Society

558S. Understanding Ethical Crisis in Organizations. EI, R, SS C-L: see Study of Ethics 562S; also C-L: Political Science 502S, Sociology 542S

559S. Philanthropy, Voluntarism, and Not-for-Profit Management. EI, SS An examination of the role and functioning of the not-for-profit sector in relation to both the public sector and the private for-profit sector in dealing with significant social problems. Also taught as Law 585. Instructor: Fleishman.


561. 9/11: Causes, Response & Strategy. EI, SS, W Examination of the origin and ideology of al-Qaeda and affiliated organizations, the events that led to the 9/11 attacks, and the public policy response in terms of use of force, preventive intelligence and law enforcement policies, and homeland security. Comparative examination of the efficacy and ethics of alternative counterterrorism policies. Instructor: Schanzer. C-L: Political Science 544

562S. Monuments and Memory: Public Policy and Remembrance of Racial Histories. ALP, CCI, EI, SS Processes of memorialization of various dimensions of racial pasts, via statuary, naming of parks and buildings, films (both documentary and fiction), novels, historical works. In depth treatment of political and economic basis for determining what events or persons are remembered and how they are remembered. Interdisciplinary course encompassing literary studies, memory studies, history, political science, anthropology, and economics. Instructor: Darity. C-L: African and African American Studies 541S

563S. Making Social Policy. R, SS Examines the policymaking process, the role of different sectors in policymaking, policymakers' use of research and communicating with policymakers. Focus on social policy. Includes experiential and written work as well as visits from policymakers and to policymaking "events." Instructor: Owen. C-L: Children in Contemporary Society 634S, Sociology 634S, Children in Contemporary Society

574. Economic Evaluation of Sustainable Development. EI, SS Examines how one could rationally defend a choice of 'sustainable development' policy. Applies cost-benefit thinking in environment-natural-resources
and development contexts. Presents microeconomic concepts emphasizing logic and principles more than mechanics. Intertemporal equity is a focus and equity-efficiency tradeoffs are a theme. Microeconomics prerequisite not required. Instructor: Pfaff. C-L: Environment 572

575D. Resource and Environmental Economics and Policy. C-L: see Environment 520D; also C-L: Economics 530D

575L. Resource and Environmental Economics. C-L: see Environment 520L; also C-L: Economics 530L

576. Resource & Environmental Economics I. SS C-L: see Environment 520; also C-L: Economics 530, Marine Science and Conservation

577. Environmental Politics. SS C-L: see Environment 577

578. Land Use Principles and Policy. SS C-L: see Environment 550

579S. Collective Action, Environment, and Development. SS Examines the conditions under which collective or participatory decisions may raise welfare in defined ways. Presents the growing empirical evidence for an environment and development setting including common property issues (tragedy of the commons and competing models). Identifies what evidence exists for sharing norms on a background of self-interested strategies. Definitions of and reactions to equity and/or its absence are a focus. Providing scientific information for policy is another. Experimental and behavioral economics are frequently applied. Instructor: Pfaff. C-L: Environment 579S

580S. Water Cooperation and Conflict. R, SS, STS Focuses on potential for transboundary water resources-related conflict and cooperation. Discusses water scarcity concepts, natural resource conflict theory, hydro politics, hydro hegemony, water security, water markets and institutions, game theory, and international water law. Other topics include the economics of water and health. Case studies complement the broader course outlook. Instructor: Jeuland. C-L: Global Health Certificate 533S, Environment 543S

581S. International Environmental Regimes. EI, SS, STS C-L: see Political Science 545S; also C-L: International Comparative Studies 521S, Energy and the Environment

582. Global Environmental Health: Economics and Policy. SS, STS C-L: see Environment 538; also C-L: Global Health Certificate 538

583S. Energy and U.S. National Security. CCI, EI, SS, W Examines link between reliable, affordable, and sustainable sources of energy and U.S. national security. Includes ethical considerations related to energy resources and wealth distribution, analysis through case study of top foreign oil suppliers to U.S., as well as newer "unconventional" sources of energy such as shale gas and renewables. Extensive use of guest experts from U.S., local and foreign governments as well as industry. Specific skills include thinking like a U.S. diplomat (cross-cultural perspective), writing concise policy memos, and delivering a compelling, succinct oral presentation. Final project will require policy recommendation on an assigned energy security topic. Instructor: Kelly. C-L: Political Science 663S, Environment 583S

590. Advanced Topics in Public Policy. SS Selected topics. Instructor: Staff.

590S. Advanced Topics in Public Policy. SS Selected topics. Seminar version of Public Policy Studies 590. Instructor: Staff.

595S. Regulation of Vice and Substance Abuse. R, SS, W The traditional vices of drinking, smoking, gambling, and the recreational use of drugs. Evaluation of government policy on these activities. The intellectual framework for evaluation drawn from economics, although readings refer to law, psychology, philosophy, and statistics. Instructor: Cook.

596. Evaluation of Public Expenditures. SS Basic development of cost benefit analysis from alternative points of view, for example, equity debt, and economy as a whole. Techniques include: construction of cash flows, alternative investment rules, inflation adjustments, optimal timing and duration of projects, private and social pricing. Adjustments for economic distortions, foreign exchange adjustments, risk and income
distribution examined in the context of present value rules. Examples and cases from both developed and developing countries. Instructor: Conrad. C-L: Economics 521, Environment 532

**597S. Seminar in Applied Project Evaluation.** R, SS Initiate, develop, and perform a project evaluation. Range of topics include measuring the social cost of deforestation, the B1 Bomber, a child nutrition program, the local arts program. Prerequisite: Economics 285 or Public Policy Studies 596. Instructor: Conrad. C-L: Economics 522S

**598. Economic Growth and Development Policy.** SS, STS, W Basic principles and policy issues in the study of economic growth and development. The roles of physical, natural and human capital, technological innovation, productivity improvements and institutions in explaining patterns and causes of variations in growth and development performance of countries. Effects on growth and development of many current policy issues including HIV-AIDs, financial crises, foreign aid and investment, debt burdens and forgiveness, corruption and governance. Prerequisite: Public Policy Studies 302. Instructor: Fernholz, Glenday, or Shukla. C-L: International Comparative Studies

**601S. Urban Policy.** QS, R, SS, W Overview of basic political, sociological, and economic models of urbanization coupled with application of these models to modern urban problems, including concentrated poverty, traffic congestion and mass transit, crime, land use and environmental quality, housing affordability, and fiscal crises. Special emphasis on historical evolution of cities. Students write a major project focusing on the problems facing one American city, and propose solutions to those problems. Instructor: Staff.

**602S. Law, Economics, and Organizations.** SS Overview of field of law and economics. Economics of information, contract theory, economic analysis of law, and New Institutional Economics. Consequences of failure of law and institutions; alternative mechanisms to sustain markets and transactions. Instructor consent required. Instructor: Bellemare. C-L: Economics 502S

**603S. Microeconomics of International Development Policy.** SS Microeconomic foundations of international development policy using tools of microeconomics to study behavior of individuals, households, and firms in developing countries. Topics may include household and intrahousehold modeling; market participation; agrarian contracts; credit and microfinance; nutrition and health; poverty traps; etc. Public Policy Studies 303D prerequisite or instructor approval. Instructor: Bellemare. C-L: Economics 503S

**604. Using Data to Analyze and Evaluate Public Policy.** QS, SS This course reviews the basic methods of inferring the causal impact of public policy initiatives. Topics include randomized controlled trials, instrumental variable analysis, regression discontinuity designs, difference-in-difference "natural experiments," and propensity score/nearest neighbor matching methods. Assignments include analysis using Stata software; final project entails proposing a quantitative study focused on causal inference. Either Statistical Science 101 or Public Policy 812 required; further coursework in multiple regression preferred. Consent of instructor required. Instructor: Ananat or J. Vigdor.

**605. International Trade and Policy.** SS Focus on economics of trade and trade policy. Includes theoretical models explaining patterns of trade, economic gains from trade, and distribution effects (winner and losers), as well as the economic effects of trade barriers, major agencies and institutions affecting trade, preferential trading arrangements, outsourcing and offshoring, multinationals, and labor and environmental issues. (No finance.) Instructor: Krupp. C-L: Economics 505

**606. Macroeconomic Policy and International Finance.** SS Survey of macroeconomic theory and analysis of policies designed to reduce unemployment, stimulate economic growth, and stabilize prices. Conventional monetary and fiscal instruments, employment policies, and new policies designed to combat inflation. Instructor: Staff. C-L: Economics 506

608S. *Economics of the Family*. SS Examines ways extended families function as economic institution. Primarily empirical, but also draws on relevant microeconomic theory. No formal prerequisites, but students should have experience with intermediate microeconomics and econometrics/statistics. Instructor: Hamoudi.

609S. *The Regulatory Process*. R, SS, STS Study of theories in economics, political science, and law to examine the structure, conduct, and performance of U.S. regulatory agencies. Emphasis on why decisions are delegated to agencies, the degree to which regulators behave strategically, and the impact of regulatory actions on society. Focus on political and economic roots of scientific and technological debates in regulatory policy. Required research paper on origins and effectiveness of a particular regulation. Instructor: Hamilton. C-L: Political Science 617S

610S. *Analysis for Strategic Design of Policy and Regulation*. QS, SS Applies tools from welfare economics, information economics, and mechanism design in order to analyze public policy problems in the context of asymmetric information and strategic behavior. Applications include: financial regulation, private and social insurance, corruption and accountability, provision of public goods, and others. Requires previous exposure to intermediate microeconomics (including basic game theory), and reasonable comfort with the mathematics of constrained optimization. Instructor: Hamoudi.

633. *Topics in Population, Health, and Policy*. SS, STS Substantive findings and policies/policy debates around selected topics in the field of population and health in industrialized and developing societies. Demographic models used to examine selected current population and health topics through framing, defining and evaluating key concepts. Topics include: end of population growth; relations between population, development and environment; health of populations; population aging; potentials for mortality increases; HIV/AIDS epidemic and resurgence of infectious diseases. Readings from disciplines of demography, sociology and public health. Topics Course. Instructor: Merli. C-L: Sociology 534, Global Health Certificate 550

634. *Responsible Genomics*. EI, R, SS Survey of ethical, social, economic, and legal issues in genomics. Introduction to ethical reasoning and examination of selected issues calling for such analysis, including: special procedures for research involving human participants, (2) respect for privacy and confidentiality of genetic information; (3) historical and political background of health research funding, and (4) public-private research interactions such as intellectual property and conflict of interest. Instructor: Cook-Deegan. C-L: Computational Biology and Bioinformatics 612, Genome Sciences and Policy


639S. *Public Health Research Methods and Issues*. CCI, R, SS Focus on prevention of diseases and health problems; funding, policy, and management decision making. Overview of public health interventions and outcomes in United States, Europe, and less industrialized nations. Emphasis on understanding the social construction of race and ethnicity and the impact of socioeconomic variables such as race, ethnicity, gender, income and education on health. Public health perspective applied to such topics as: HIV/AIDS; teen pregnancy; cocaine use during pregnancy; infant mortality and low birth weight; violence; major causes of mortality in less industrialized countries; and role of public health in state and national health reform. Instructor: Whetten. C-L: Global Health
640S. Value for Money in Health Care: Rationing in Theory and Practice. SS, STS Determining which health interventions and programs are "worth it." Resource allocation and priority setting in practice. Analytical topics of cost benefit and cost effectiveness. Prerequisite: Economics 101 or 201D. Instructor: Vigdor.

642S. Designing Innovation for Global Health: From Philanthropy to People. EI, SS, STS The policy and philanthropic landscape behind appropriate technologies for global health. Focus is on developing countries and problems specific to those settings. Topics examined include: policies to minimize inequity, appropriate level of intervention for an innovation (individual, group, community), intellectual and financial capital, end-user input, systems for sharing and owning knowledge, philanthropy, ethical issues, and policy ramifications. Several weeks devoted to examination of specific technologies and problems, including access to medicines, malnutrition, clean water, and information technology. Instructor: So.


644S. Poverty, Inequality, and Health. EI, R, SS Impact of poverty and socioeconomic inequality on the health of individuals and populations. Attention given to both United States and non-United States populations. Topics include the conceptualization and measurement of poverty and socioeconomic inequality; socioeconomic gradients in health; globalization and health; socioeconomic deprivation across the life-course and health in adulthood; and public policy responses in the United States and elsewhere to growing health inequities in the age of globalization. Prerequisite: An introductory course in statistics. Seniors and graduate students only. Instructor: James. C-L: African and African American Studies 548S

674. Media and Democracy. CCI, SS Examines the relationship between mass media and democracy in the United States, other developed democracies, and societies in transition. Seeks to explain how the media cover politics and public policy, examining the nature of media institutions, the economics of news production and consumption, and the strategic interplay of politicians, journalists, editors, and other actors who influence the content of news. Instructor: Mickiewicz. C-L: Visual and Media Studies 563, Information Science and Information Studies, Policy Journalism and Media

675S. Advanced Magazine Journalism. R, SS, W Advanced version of Public Policy Studies 366S. Students study current magazines as cultural documents; read and analyze stories across a broad swath of magazines; research, report, and write stories on complex public policy issues; conceptualize a magazine as a class project. Instructor: Bliwise. C-L: Policy Journalism and Media

676. Media and Social Change. CCI, R, SS, STS Media perform crucial connecting links between civil society and leadership. Authoritarian regimes or single-party states seeking to suppress formation of civil society can be changed drastically when media use changes. This course will examine why and how such processes can take place, focusing on Russia, Eastern Europe, and other cases, such as China. Instructor: Mickiewicz. C-L: Political Science 619, Russian 516, International Comparative Studies, Information Science and Information Studies, Policy Journalism and Media Studies

677S. Federal programs: Using the paper trail to track promises and follow the money. R, SS Follows a federal spending or regulatory program from inception through implementation. Research of primary records, including state and local governments, and standard federal sources of primary documents, to compare performance with expectations. GIS and other visualization techniques to analyze program implementation. Website creation to detail program performance. Instructor: Cohen.

678. Media Policy and Economics. R, SS, STS Use of economics to examine the production and consumption of information in communications markets and impact of media on society. Topics include regulation of television/radio/newspapers, intellectual property and Internet, content diversity, and news markets. Instructor: Hamilton. C-L: Economics 509, Policy Journalism and Media

THE MAJOR

The public policy studies major is an interdisciplinary social science program designed to provide students with the skills, analytical perspectives, and substantive knowledge needed to deal effectively with
major contemporary social problems. The course of study familiarizes the student with the kind of contribution each of several disciplines (political science, economics, social psychology, applied mathematics, history, and ethics) can make to one's understanding of a broad range of contemporary issues such as environmental policy, child and family policy, health policy, and international issues such as trade and conflict resolution. Opportunities are provided, both in the classroom and through field experiences, for students to integrate this material and apply it to the analysis of specific public policy issues.

Students majoring in public policy participate in a variety of learning experiences including seminars, lecture and discussion classes, individual study, policy workshops, and a required internship (see below). In addition, students are urged to participate actively in programs sponsored by the Sanford School of Public Policy to supplement material covered in class.

Major Requirements. Public Policy Studies 155D, 301, 302; Public Policy Studies 303D or Economics201D; Public Policy Studies 304 (with Public Policy Studies 303D or Economics 201D as a prerequisite); one history course; Statistics 101; plus four Public Policy Studies 200/300 or 500-600-level elective courses, one of which must be a 500/600-level course. The required history course must include a public policy component. History classes taught by Public Policy faculty or other History Department classes designated by the Public Policy director of undergraduate studies may be used to satisfy this requirement. No more than two transfer (including study abroad) credits may be counted toward the major requirements. Note that Public Policy Studies 450AS Glasgow Seminar in Public Policy is classified as a Duke course rather than a transfer course. A satisfactory policy-oriented internship, approved by the department, and enrollment in Public Policy Studies 120, a non-credit, pass/fail internship course, is required.

INTERNSHIP PROGRAM

The Public Policy Studies internship program provides students with an opportunity to develop a basic understanding of one or more policy areas, to apply that understanding in an internship, and to return to the classroom to build on that knowledge and experience. A Handbook for Public Policy Studies Undergraduate Internships, outlining all specific internship requirements, is available through the department.

Prior to beginning the internship, students must take all of the following courses: Public Policy Studies 155D, 301, 302D, 303D (or Economics 201D in place of 303D) and Statistics 101. All of these courses are listed as prerequisites for Public Policy Studies 120. Since most students will conduct their internships in the summer between their junior and senior years, this means all these core courses and prerequisites should be completed by the end of the junior year. Students failing to complete these prerequisites by the end of their junior year will have to complete a term-time internship during their senior year or (if they graduate late) in the summer after the senior year. The internship application process takes place during the fall and spring semesters prior to the internship under the guidance, assistance, and approval of the Public Policy Studies Internship Office. Students whose internships are not preapproved by the Internship Office run the risk of not receiving credit for their internships. Upon completion of the internship, students are required to submit an analytical memo and a self-evaluation form.

Public Policy Studies majors are strongly encouraged to take advanced follow-up course work that builds upon the knowledge gained from their internship experiences.

Departmental Graduation With Distinction

For graduation with departmental distinction, students are required to complete an honors seminar or independent study project and produce an honors research project. To be awarded Distinction in Public Policy, a student must receive no less than an A- on the research paper as determined by the honors program director and to have at least a 3.40 average in the following subset of Public Policy Studies courses: Public Policy Studies 155D, 301, 302D, 303D (or 304 if the student takes Economics 201D instead of 303D). If a student is judged to have done a clearly superior research project, as evidenced by a grade of A or A+ as determined by the honors program director, and if the 3.40 or higher average in the above subset of courses is attained, Highest Distinction in Public Policy is awarded. The proposed program of research must be approved in
advance by the director of undergraduate studies. More details on the honors program are provided in the *Handbook for Public Policy Majors*, available from the office of the Director of Undergraduate Studies.

**Religion (RELIGION)**

Professor Van Rompay, *Chair*; Associate Professor Goodacre, *Director of Undergraduate Studies*; Professors Chaves, Clark, Goldman, Kort, C. Meyers, E. Meyers, Moosa, Morgan, Patton, Peters, and Van Rompay; Associate Professors Goodacre, Jaffe, Lieber, and Prasad; Assistant Professors Hassan and Kim. Instructor Need; *Affiliated faculty:* Professors Aers (English), Wharton (art history and visual studies), Beckwith (English), and Surin (literature); Associate Professor Hacohen (history); Visiting Assistant Professors Freeman (history) and Dubois; Visiting Research Professor Kadivar; Postdoctoral Fellow Concannon

A major or minor is available in this department.

Study in the Department of Religion arises from the recognition that religion, although it takes many forms, is a constitutive element of human existence individually and collectively. The study of religion involves a variety of perspectives and methodologies. The major religious traditions of the world—Christianity, Islam, Judaism, Buddhism, Hinduism, Confucianism, and Taoism—are studied in the ways they manifest themselves in our present-day societies and in their historical depth, examining their origins and sacred texts (often in the original languages) as well as their historical developments, rituals, artifacts, practices, and transformations over time. Beyond the study of individual religious traditions, the core notions of religion itself are also explored. Courses numbered from 100 through 399 include survey or general courses and also courses on more specific aspects of religion or religious traditions.

All courses numbered 100 through 499, with the exception of those courses specially designated, are open to all undergraduates. Courses numbered 500 through 699 are open to upperclass students with the consent of the instructor.

**80S. Special Topics in Writing.** Various topics with diverse readings and intensive writing. Instructor: Staff. One course.

**89S. First-Year Seminar.** Topics vary each semester offered. Instructor: Staff. One course.

**101. Introduction to Religious Studies.** CCI, CZ, EI Introduction to leading themes and concepts in the study of religions from the ancient world to the present. Course is divided into two parts: 1) what is religion? and 2) how is religion studied? A variety of religious traditions are examined as well as various theories and definitions of religion. Includes exploration of key ways in which different religions understand such social problems as violence and ideological conflict. Instructor: Staff. One course.

**105. Biblical Hebrew I.** FL Elements of phonology, morphology, and syntax. Exercises in reading and writing Hebrew. Course credit contingent upon the successful completion of Religion 106. Instructor: Leiber or staff. One course. C-L: Jewish Studies 105, Hebrew 171


**107. Introductory Sanskrit Language and Literature.** One course. C-L: see SANSKRIT 101

**108. Introductory Sanskrit Language and Literature.** One course. C-L: see SANSKRIT 102

**110. Hinduism.** CCI, CZ, EI An exploration of the beliefs, ethics, everyday and ceremonial practices, philosophies, mythologies, and movements that are part of the aggregately-named religion of Hinduism. Instructor: Prasad or staff. One course.

**120. Buddhism.** CCI, CZ, EI Introduction to Buddhist texts, beliefs, rituals, and ethics in the past and present. Instructor: Jaffe or staff. One course.

**130. Taoism and Chinese Religion.** CCI, CZ, EI Introduction to Taoism, its texts, practices, and ethical implications in history and modern times in mainland China and Taiwan. Instructor: Staff. One course. C-L: Ethics Courses Offered Through Other Departments
140. Judaism. CCI, CZ Introduction to Judaic civilization from its origins to modern times. Instructor: Goldman, Lieber, E. Meyers, or staff. One course. C-L: Jewish Studies 140, Women's Studies

140S. Judaism. CCI, CZ Seminar version of Religion 140. One course. C-L: Jewish Studies 140S, Women's Studies

145. The Old Testament/Hebrew Bible. CCI, CZ, EI Historical, literary, ethical, and theological investigations of the ancient Near Eastern context of Israelite religion and culture. Instructor: C. Meyers, E. Meyers, or Peters. One course. C-L: Jewish Studies 145, Ethics Courses Offered Through Other Departments

150. Christianity. CCI, CZ, EI Introduction to Christian doctrine, ritual, social organization and ethics in the past and present. Instructor: Van Rompay or staff. One course.

151. Christian Theological Debates in their Historical and Cultural Contexts. CCI, CZ, EI Study of the major theological concepts of Christianity, in an attempt to understand when and why these concepts became part of the Christian legacy. We will study the theology of the Bible, the proclamations of the councils, the authoritative decisions of the churches, and the writings of the most influential Christian authors, up to our own day. For each of the focal points we will consider the historical and cultural contexts, and listen to the various participants in the debates, winners and losers. The course aims to clarify the main topics that are shared by all Christians as well as the topics that have led to division of Christianity in the past and to ongoing debate in the present. Instructor: Van Rompay. One course.


160. Islam. CCI, CZ, EI Introduction to Islamic theology, practice, social institutions, and ethics in the past and present. Instructor: Moosa or staff. One course. C-L: Islamic Studies

165FS. Muslim Women across the Ages. CCI, CZ, SS, W Explores diverse realities of Muslim women's lives, from origins of Islam to present, through autobiographical and biographical accounts situated in their social, economic, political, and cultural contexts, representing multifarious facets of Muslim women's lived experiences. Women encountered through textual and audiovisual materials represent a wide range, including scholars, mystics, merchants, philanthropists, poets, slavegirls, feminists, and Islamists. Topics course. Instructor: Hassan. One course. C-L: Islamic Studies

175. Religions of Asia. CCI, CZ, EI Problems and methods in the study of religion, followed by a survey of the historical development, beliefs, practices, ethics, and contemporary significance of the Islamic religion and religions of south and east Asia. Instructor: Staff. One course. C-L: International Comparative Studies 108

176. Japanese Religions: Buddhas, Kanmi, and other Deities. CCI, CZ, EI The various strands of Japanese religious life from prehistoric times until the present. Kami worship; primary denominations of Japanese Buddhism; Japanese Christianity; Confucianism; and the New Religious. The ethical, social, and political implications of these strands. Instructor: Jaffe. One course.

178. World Religions in American Life. CCI, CZ Introduction to world religions through exploration of their manifestations in the United States, with the goal of understanding both religion and American life more accurately. Instructor: Morgan or staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Religion. Topics differ by section. Instructor: Staff. One course.

190FS. Focus Program Seminars: Special Topics. CZ Topics vary from semester to semester. Open only to students in the Focus Program. Instructor: Staff. One course.

190S. Special Topics Seminar. CZ Topics and instructors to be announced. Instructor: Staff. One course.

195. Comparative Approaches to Global Issues. CCI, CZ, SS One course. C-L: see International Comparative Studies 195; also C-L: Cultural Anthropology 195, History 103, Political Science 110, Sociology 195, Marxism and Society
210. Religion in China. CCI, CZ Chinese religious traditions (for example, Taoist, Buddhist, Confucian, and popular) and their interrelationships from the Neolithic to the present. Mutual influences between religion and Chinese social, cultural, and political history. Instructor: Staff. One course. C-L: History 222

211S. Religion and Culture in Korea. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 176S


215. Greek and Roman Religion. CCI, CZ One course. C-L: see Classical Studies 264

219S. Muslim Women Across the Ages. CCI, CZ, SS, W One course. C-L: see History 225S; also C-L: Women's Studies 209S, International Comparative Studies 365S, Islamic Studies

220. Religions of India. CCI, CZ Major religious traditions of the subcontinent: Hinduism, Buddhism, Jainism, and Islam. Instructor: Prasad or staff. One course.

224. Sacred Space in South Asia. CCI, CZ Hindu, Jaina and Buddhist traditions, about notions of "sacred space" in South Asia, particularly India, and the South Asia diaspora: temple architecture, pilgrimage, festival and daily ritual, tourism, oral and written literatures, popular media, and performance. Topics include sacredness of the human body, domestic altars, temple complexes, religious processions, festivals and historic monuments. The contested social contexts and the politics of mapping and marking sacred sites. Instructor: Prasad. One course.

225. Religion and Social Transformation in South Asia. CCI, EI, SS One course. C-L: see Cultural Anthropology 405; also C-L: Islamic Studies

227. Introduction to the Civilizations of Southern Asia. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 255; also C-L: History 217, International Comparative Studies

228. The Turks: From Ottoman Empire to European Union. ALP, CCI, CZ, EI, R One course. C-L: see Turkish 308; also C-L: History 212, Asian & Middle Eastern Studies 287, Islamic Studies

230. Jerusalem: Past and Present. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 243; also C-L: Jewish Studies 230, Islamic Studies

231. Classical Judaism, Sectarianism, and Early Christianity. CCI, CZ The emergence of ancient Judaism from late biblical times with the christianization of the Roman Empire by Constantine the Great. The variety of Judaism explored through the literature of the Dead Sea Scrolls, the New Testament, and paganism. The impact of Greco-Roman (Hellenistic) culture on all these traditions. Instructor: E. Meyers. One course. C-L: Jewish Studies 331

232. Prophecy and Prophets: Then and Now. CCI, CZ Historical and comparative exploration of the activities, roles, and claims of humans, in selected ancient and modern societies, to whom the label prophet or a similar title (diviner, shaman, mystic, etc.) has been applied. Critically examines features that are constant and variable among groups that accept the authority of certain individuals to function as mediators between a natural and a supernatural realm. Includes biblical, ancient Near Eastern, Greek, Islamic, Native American, and several modern examples of intermediation (prophecy) and intermediaries (prophets). Instructor: Peters. One course.


233SA. Community Media and Social Change in India. CCI, EI, SS, STS How civil society in India is challenging hegemony of mainstream media, providing democratized alternatives to the concentration of media power in a few global conglomerates. Inquiry into ways civil society organizations negotiate religion
and secular impulses for social change. Key aspects of grassroots media technologies: contextualization in religion and culture, community participation and ownership and non-profit management. Focus on participatory video and nascent community radio movement through case studies, media theory, and field-level interactions. Offered as part of Duke INtense Global Program in Hyderabad. Instructor: Prasad. One course.


237. Religion in American Life. CZ, EI A historical survey, with emphasis on the ways that religious experiences, beliefs, and traditions have found expression in religious communities and institutions, and in American public life. Instructor: Goldman, Morgan, or staff. One course. C-L: Visual and Media Studies 233, Ethics Courses Offered Through Other Departments

240. West African Rootholds in Dance. ALP, CCI, CZ One course. C-L: see Dance 335L; also C-L: African and African American Studies 220

241. Dance and Dance Theater of Asia. ALP, CCI, CZ One course. C-L: see Dance 356; also C-L: Theater Studies 233, International Comparative Studies 378

242. Kundalini Yoga and Sikh Dharma. ALP, CCI, CZ One course. C-L: see Dance 357L

243. History and Practice of the Dance and Dance-theatre of India. ALP, CCI, CZ One course. C-L: see Dance 355; also C-L: Theater Studies 234, Asian & Middle Eastern Studies 154

244. Dance and Religion in Asia and Africa. ALP, CCI, CZ One course. C-L: see Dance 367; also C-L: African and African American Studies 222, International Comparative Studies 214

245. Music in East Asia. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 214; also C-L: Music 234

246. Music in South Asia. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 254; also C-L: Music 235

247. T’ai Chi and Chinese Thought. CCI, CZ The philosophy, cosmology, and other aspects of traditional Chinese thought embodied in the martial art of T’ai Chi. Course conducted through readings and lectures as well as actual movement praxis. Comparisons between Western bio-medical notions of the body and those implied by T’ai Chi and other facets of Chinese thought and practice, such as Chinese medicine. Instructor: Staff. One course. C-L: Dance 255


251S. Documenting Religion. CCI, CZ One course. C-L: see Documentary Studies 338S; also C-L: Cultural Anthropology 233S, Visual and Media Studies 210S


261. Medieval Christianity in Film and Fiction. ALP, CCI, CZ, EI Exploration of modern popular fictional representations of Christianity in the Middle Ages, including novels and films. Comparison with original medieval sources to understand relationship between present-day interpretations and actual medieval practice, and what this reveals about both cultures. Of particular concern: ethical issues concerning Christianity and violence, wealth, power and notions of democracy and modernity. Instructor: Dubois. One course. C-L: History 244, Medieval and Renaissance Studies 354
262. Dante's Divine Comedy: Hell, Purgatory and Paradise. ALP, CCI, CZ, EI One course. C-L: see Italian 481; also C-L: Medieval and Renaissance Studies 450, History 253, Literature 245, International Comparative Studies

263. Mystical Literature. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 322; also C-L: Islamic Studies


265. Representing the Holocaust. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 343; also C-L: Jewish Studies 267

266. Religion and Film. ALP, CCI, CZ, EI A study of the relationship between motion pictures and religion. Focus on the comparative portrayal of organized religions; expressions of religious life; and religious topics, such as God, evil and morality, in both Western and non-Western films in which contemporary artists and intellectuals explore the challenges of modernity. Instructor: Staff. One course. C-L: Documentary Studies, Arts of the Moving Image, Ethics Courses Offered Through Other Departments

267. Fragmented Memories: Polish and Polish Jewish Culture Through Film. ALP, CCI, CZ, EI One course. C-L: see Polish 308S; also C-L: Jewish Studies 269S


270S. Civic Engagement: Reflection and Transformation. CCI, CZ, EI, SS Course provides an extended reflection on students' civic engagement experience. Explores meaning of transformation commonly seen as underlying civic engagement. Examines critical questions like who or what is transformed, and when. Considers how transformation is related to negotiation of goals and challenges, to gaining insight into politics and histories of place and person, and to understanding and expressing ethical co-citizenship. Course designed interactively with students over the first two weeks, includes interdisciplinary readings that range from poetry and autobiography to politics and policy. Draws on varied documentary media and guest lectures. Instructor consent required. Instructor: Prasad. One course. C-L: Public Policy Studies 255S, Study of Ethics 360S

271. Women in the Biblical Tradition: Image and Role. CCI, CZ, EI Women in ancient Israel, early Christianity, and early Judaism in their contexts in the Near Eastern and Greco-Roman worlds, with attention to the relation between textual depictions and social reality and to the ethical issues raised by the continuing authority of biblical texts for matters of gender. Sources include the Bible, images from art, and archaeological remains. Instructor: C. Meyers. One course. C-L: Jewish Studies 271, Women's Studies

272. Gender and Morality: Indian Perspectives. ALP, CCI, CZ, EI Explores articulations of morality in literary, philosophical, and everyday contexts of India and the Indian diaspora, with focus on gender. Relationships between ideological depictions of women across varied contexts and women's social lives. Gendered visions underlying personhood, duty, sexuality, family, community, and lifestyle. Readings from Hindu ethics, epic narrative, ethnography, fiction and poetry. Instructor: Prasad. One course. C-L: Women's Studies 245, Ethics Courses Offered Through Other Departments

273. Gender in Religion in the United States. CCI, CZ Women's religious experience in America, from the lives of early American 'good wives' to the work of Catholic nuns in the nineteenth century and the spirituality
of Jewish feminists in modern America, concluding with a discussion of contemporary issues, for example, feminist theology, sexuality, and admission of women to pastoral leadership. Instructor: Staff. One course. C-L: Women’s Studies

274FS. Religion & Politics: The Middle East Today. CCI, CZ, EI, SS Explore how religious beliefs and practices shape identities and politics at the individual, local, national and global levels; examine the complexities of the three Abrahamic religions, Judaism, Christianity, and Islam in their diversities as well as other religious traditions such as Baha’i and Zoroastrianism; examine how theological differences shape political conflicts and, conversely, how entrenched political conflicts shape religious beliefs of their respective communities. Open only to students in FOCUS Program. Instructor: Goldman. One course. C-L: Islamic Studies

274S. Religion and Politics. CCI, EI, SS One course. C-L: see Public Policy Studies 229S; also C-L: Political Science 379S

275S. Poetry, Desire & Religion. ALP, CCI, CZ, W Studies the use of love poetry genres to transform theological traditions in India, Islam, Judaism, and Christianity circa 600-1500 CE; studies ongoing exploration of intersections of the sacred, desire, and expressive language in post-Enlightenment poetry; explores poetry and, more generally, the arts as a performative mode by which a theological relation is posed and enacted in one’s life; introduces students to basic problems, readings, and ideas related to language, hermeneutics and desire; specific authors include: Mirabi, Kabir, Rumi, San Juan de la Cruz, Dickinson, Rilke, H.D., and Celan. Instructor: Need. One course. C-L: Literature 244S

276. Religion and Race. CCI, CZ, SS Discussion of various ways in which "race" has been defined and constructed in recent centuries using categories from biology, sociology, philosophy, genetics, anthropology, etc. Examines how religious traditions and practitioners have actively sought both to eliminate race and have been complicit in maintaining and defending it. Special focus on Judaism, Christianity, and Islam in the modern period. Instructor: Peters. One course. C-L: African and African American Studies 276

277. Ethics in South Asia. ALP, CCI, CZ, EI Explores through anthropological and literary approaches, how ethics is articulated in religious texts and epics, in everyday contexts, and in the performative arts in South Asia. Examines ethical thinking reflected in conceptualization and expressions of personhood, duty, sexuality, family, and community. Explores issues such as the imagination and negotiation of moral authority; the constitution, assessment, and transmission of values; the role of colonialism; and the moral magnetism of epic traditions. Uses wide range of interdisciplinary material to help explore the practice of ethics in South Asia. Instructor: Prasad. One course. C-L: Ethics Courses Offered Through Other Departments

280. Religious Movements. CCI, CZ, SS One course. C-L: see Cultural Anthropology 211

281. American Apocalypse: Beat Generation Spirituality. ALP, CZ, EI, W Places Beat Generation spirituality in its contexts by study of sources and texts that influenced individual figures, specifically, the reading, world view, and practice of Kerouac, Snyder, Ginsberg, Burroughs, and di Prima; identifies the Asian and Native American texts and translations available to Americans in the post-war era and outlines Western influences (Thoreau, Spengler, Skinner, Reich, Neitzsche), reading these in relation to key mythemes of American identity and destiny in the post-War era. Instructor: Need. One course. C-L: Literature 280

281A. The Cognitive Science of Religion and Morality. CZ, EI, R, W One course. C-L: see Philosophy 232A; also C-L: International Comparative Studies 224A, Turkish 232A

282AS. Science, Ethics, and Society. CZ, EI Two courses. C-L: see Philosophy 385AS; also C-L: Public Policy Studies 258S

285S. Sociology of Religion. CCI, R, SS One course. C-L: see Sociology 351S

286. Medicine and Religion in American Society. CZ, EI, STS Religious, social, and cultural understandings of pain and suffering, disease, mental illness, sexuality and sexualities, abortion, and euthanasia. Close reading and interpretation of historical, scientific, and philosophical texts as well as various media and art forms. Instructor: Staff. One course.
287. Religion and Science: Biology, Minds, and Souls. CCI, CZ, STS

The diverse interactions of religion and science from the Renaissance to the present. The profound transformation of premodern science by seventeenth-century revolutions and nineteenth-century discoveries; in turn, the transformation of society, including religion, by modern science. Some consideration of physics and astronomy, but major focus on the impact of Darwinian anti-teleology and modern biology, especially animal studies, on "natural theology" and traditional arguments from design. Thinkers to be considered include Francis Bacon, Montaigne, Spinoza, Thomas Huxley, Albert Einstein, and E. O. Wilson. Topics include evolution, human consciousness, human identity, and the human-animal boundary. Instructor: Staff. One course. C-L: Marine Science and Conservation

289. Religion and Ritual. ALP, CCI, CZ, EI

Introduces students to ritual as a key dimension of religion and religious ethics, and exposes students to a range of ritual and performance theories and cases drawn from the world's religions. Explores place and function of large scale and private ritual in embodied and enacted ethics and as a means of redressing social violence according to a given notion of the "good". Ritual theories are taken from sociological, anthropological, performance and religious studies, including the work of Eliade, Ricoeur, V. Turner, T. Turner, Douglas, Geertz, and Bell. Rituals considered are drawn from Native American, Zen and Tibetan Buddhist, Christian, Muslim, Jewish, and Hindu contexts. Instructor: Need. One course. C-L: Theater Studies 301

290. Special Topics in Religion. Topics vary from semester to semester. Instructor: Staff. One course.

290S. Special Topics in Religion. Seminar version of Religion 290. Instructor: Staff. One course.

291. Independent Study. Individual guided readings in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. For freshmen and sophomores with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

292. Independent Study. See Religion 291. For freshmen and sophomores with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

293. Research Independent Study. R

Individual research and readings in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. For freshmen and sophomores with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

294. Research Independent Study. R

See Religion 293. For freshmen and sophomores with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

310S. The Anthropology of Hinduism: From Encounter to Engagement. ALP, CCI, CZ, R

European colonial, North American, and Indian accounts of Hindu practices and worldviews. The limits and possibilities of "anthropological" approaches to understanding Hinduism. The intersections between Hindu "traditions," ethnography, and diasporic movements. Topics include everyday practice, pilgrimage and performance traditions, devotional literatures, and contemporary politics of Hinduism. Instructor: Prasad. One course. C-L: Cultural Anthropology 240S, Documentary Studies, Ethics Courses Offered Through Other Departments

311. Hindu Arts of Devotion. ALP, CCI, CZ, EI

Studies Hindu devotional arts in historical and cultural contexts from the 7th century. Looks at how these arts from literature and visual arts to performance and material culture invented new and also deployed old modes of artistic production and circulation to express temporal and spatial sacredness, political dissent, and existential predicaments. Scrutinizes the critical role of devotional arts in defining and reflecting tides of Hindu ethical thought and values of daily living. Course seeks to understand the connections evolved between contemporary lived ethical practice, patronage, social communities, and artistic technologies. Instructor: Prasad. One course.

320S. Transnational Buddhism in Asia and America. CCI, CZ

An examination of Buddhism in Asia, Europe, and the United States from the mid-nineteenth century to the present. Emphasis on global exchanges
that resulted in the emergence of Buddhism in the United States and Europe and the transformation of Buddhism in Asia. Instructor: Jaffe or staff. One course.

321S. Buddhist Ethics. CCI, CZ, EI, W Survey of various Buddhist understandings of ethics, both classical and contemporary. How different Buddhist communities have responded to such ethical problems as the existence of evil, war, injustice, and suffering as well as contemporary Buddhist debates over abortion, ethnic fratricide, human rights, environmental problems, economic justice, and cloning. Instructor: Jaffe or staff. One course. C-L: Marine Science and Conservation, Ethics Courses Offered Through Other Departments

322. Mahayana Buddhism. CCI, CZ Special features of the doctrine and practice of Buddhism in Tibet, China, Korea, and Japan, with an account of their origins in the Indian subcontinent. Instructor: Jaffe or staff. One course. C-L: Asian & Middle Eastern Studies 306

323S. Buddhist Meditation: Cultivation Practices and Psychology. CCI, CZ, EI Buddhist paths and techniques of self-transformation in premodern and modern Buddhist cultures. Conceptions of the psychophysical person and goals of Buddhist practice assumed by these meditative techniques. Reinterpretation and modification of traditional meditation practices in contemporary Buddhist societies. Instructor: Jaffe or Kim. One course.


325S. Modern Korean Buddhism in the Global Context. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 376S

326S. Zen Masters, Soldiers, and Artists. CCI, CZ, EI Throughout Buddhist history, the monastic community has had the responsibility of maintaining the Buddha’s teachings, values, and practices. Thus, in order to understand the Buddhist tradition, it is crucial to have a good grasp of the place of Buddhist monasticism. The course is divided into two parts. The first is dedicated to examining the origin, structure, and development Buddhist monasticism, starting with the life of its founder, and focusing on Buddhism’s internal ethical debates on the purpose of monasticism, monastic conduct, etc. We then compare the normative view of monasticism with the lives of monks and nuns. We look at how monastics have been artists, scholars, court advisors, shamans, and doctors, among others, and how Buddhist monastic institutions have responded to acts of state, war, challenges from other religions, and modernity. Instructor: Kim. One course.

327S. Tibetan Buddhism: Culture, Ethics, Philosophy and Practice. CCI, CZ, EI, W Introduces students to history, practice, culture, and ethics of Tibetan Buddhism; contents include overview of Indian Buddhist practice and ethics; historical overview of Tibetan Buddhism with a focus on connections between the construction of Buddhist ideal types (lama and yogin) and political power; Tibetan Buddhist Philosophy; Buddhist transformation of ethical, social and cultural forms, including the shaman/king and gift exchange patterns, and analysis of the function of lineage within the construction of Tibetan polities and social order; readings include textbook surveys, biography and philosophical texts and poetry. Instructor: Need. One course. C-L: Asian & Middle Eastern Studies 386S

329S. Taoism and Mysticism. CCI, CZ Explores the mystical tradition that runs through the Taoist school of Chinese thought and practice from ancient times to the present, concentrating on early Taoist texts and their commentaries (from ca. 400 BCE-ca. 700 CE.) in English-language translation. The discovery in recent decades of previously unknown texts and new versions of received texts now makes possible the delineation of a coherent history of early Taoist practices of self-cultivation, mystical transcendence, and the application of mystical insights to daily life and even to government, as well as cosmological, ontological, epistemological and other facets of associated modes of thought. Instructor: Staff. One course.

335. Jewish Mysticism. CZ, EI The main historical stages, personalities, texts, ethical doctrines, social teachings, and metaphysical doctrines from rabbinic to modern times. Instructor: Goldman or Lieber. One
340. Jewish History, 1492 to the Present. CCI, CZ, EI, SS One course. C-L: see History 251; also C-L: Jewish Studies 251, Ethics Courses Offered Through Other Departments

341. Jewish Ethics. CCI, CZ, EI Survey of Jewish ethics from antiquity to modern times, with focus on both general methods and specific case studies. How different traditional Jewish sources and communities respond to ethical challenges such as the death penalty, abortion, cloning, the environment, and economic justice, especially in the U.S. Responses from a variety of Jewish perspectives (Reform, Orthodox, and Conservative.) Instructor: Lieber. One course. C-L: Jewish Studies 341, Ethics Courses Offered Through Other Departments

342. The Holocaust. CCI, CZ, EI, STS One course. C-L: see History 297; also C-L: Jewish Studies 342, Political Science 262

345. Contemporary Jewish Thought. CCI, CZ, EI Modern Jewish thought from Mendelssohn to the present, with particular reference to the dynamics of emancipation, antisemitism, religious reform, Zionism, the rise of natural religion with its emphasis on the supremacy of ethics, and feminism. Instructor: Goldman or E. Meyers. One course. C-L: Jewish Studies 345

347S. Women in Judaism. CCI, CZ, EI, W How women have understood, experienced, and shaped Judaism from the Greco-Roman period to the present day. Discussion topics include: women's traditional religious roles and status; the ways in which women themselves have understood and expressed their Jewish self-identity and religious experiences over the centuries; and the transformation of Jewish women's roles, expectations, and opportunities in the modern world, especially in the U.S. Instructor: Lieber. One course. C-L: Jewish Studies 347S

349S. Zionism: Jewish and Christian Aspects. CCI, CZ, EI, SS Examines various trends and ideologies within Zionism, with emphasis on the movement's religious aspects. Study of various forms of Zionism, both Christian and Jewish, in the context of the constantly shifting Christian-Jewish relationship. Introduction to the origins of political Zionism, with focus on the manner in which religious ideas influenced both Zionism and the State of Israel. Instructor: Goldman. One course. C-L: Jewish Studies 350S, Asian & Middle Eastern Studies 350S

350S. Non-Canonical Gospels. ALP, CZ, EI Historical-critical study of early non-canonical Christian Gospels, with special reference to the Gospel of Thomas, the Gospel of Peter, the Protevangelium of James, the Infancy Gospel of Thomas, Papyrus Egerton 2, Gospel of Mary, Gospel of Judas, Gospel of Philip, Dialogue of the Savior and Secret Mark; their relationship to other early Christian texts, their view of Jesus, their place in early Christianity; questions of authority, canon, canonical-bias, and concepts of heresy and orthodoxy. Instructor: Goodacre. One course.

351. The Historical Jesus. CCI, CZ, EI An investigation of what can be known about Jesus of Nazareth, his teaching about the kingdom of God and ethical behavior, his symbolic acts, and his cures. Principal attention given to the first three gospels, secondary attention to comparative material from the Jewish and Greco-Roman worlds. Instructor: Goodacre or staff. One course. C-L: Ethics Courses Offered Through Other Departments

352. The Life and Letters of Paul. CCI, CZ, EI Paul's biography and character, the social and physical circumstances of his work, his thought, and its relationship to ancient Jewish and Hellenistic ethics and beliefs. Instructor: Goodacre or staff. One course. C-L: Ethics Courses Offered Through Other Departments

353. Ethical Issues in Early Christianity. CCI, CZ, EI Investigation of two major transitions in the early Christian movement and their impact on the formulation of Christian ethics: Christianity's transition from a sect within Judaism to a Greco-Roman religious movement whose constituency came largely from the "pagan" world, and its transition from a sect in danger of persecution to a religion favored and supported by Roman imperial authorities. How these transitions are reflected in early Christian attitudes toward, and practices concerning, poverty and wealth, war and military service, marriage and sexuality, capital punishment, slavery, and other issues. Instructor: Staff. One course.
354. Medieval Christendom, Conflict. CCI, CZ, EI One course. C-L: see History 242; also C-L: Medieval and Renaissance Studies 257

355. History of the Christian Church. CCI, CZ, EI Crucial events, issues, structures, and writings that have shaped the Christian community and influenced Western civilization from the time of the early church to the present. Special attention to ethical themes such as human destiny, the "good life," reform and renewal that have been permanent elements in Christian history. Instructor: Staff. One course. C-L: History 243, Ethics Courses Offered Through Other Departments

356. Roman Catholic Tradition. CZ History of the tradition from early days through the reforms of Vatican II with emphasis on the experiences of American Catholics, concluding with a discussion of current concerns about economic justice, gender equality, sexuality, and the post-Vatican II crisis of authority. One course. C-L: History 380

357. Protestant Traditions. CZ, EI Survey of history and thought of Protestant Christianity. Emphasis on interaction of religion and society as well as theological and ethical beliefs. Instructor: Staff. One course. C-L: History 258

358. The Reformation of the Sixteenth Century. CCI, CZ, EI A survey of the changes in sixteenth-century European society, with particular reference to the continent, which grew out of the movement for religious reform and socio-political renewal. Focus on new developments in theology and religion and their relationship to society in such issues as the definition of a "good society," just war, and social justice. Instructor: Staff. One course. C-L: History 259, Medieval and Renaissance Studies 284, Ethics Courses Offered Through Other Departments


368. The Theology and Fiction of C. S. Lewis. ALP, CZ, EI A study of texts of cultural criticism, fantasy fiction, and theological and moral argument by C. S. Lewis, their dependence on the cultural situation in which they were deployed, and the reasons for their continuing force and wide appeal. Instructor: Kort. One course. C-L: Ethics Courses Offered Through Other Departments

370FS. Qur'an Over Time. CCI, CZ, EI Same as Religion 370S but open to students only in the Focus Program. Instructor: Staff. One course. C-L: Islamic Studies

370S. Qur'an Over Time. CCI, CZ, EI Qur'an as central text of Islamic ritual and belief, national reflection, and transnational exchange for nearly all Muslims. Will examine question of translatability as well as issues of interpretation from non-Muslim, secular or non-theological perspectives. Possible usefulness of analogies to literary critical study of Bible. The Internet as a resource for exploring multiple interpretations by Muslims and non-Muslims. Instructor: Staff. One course. C-L: Asian & Middle Eastern Studies 226S, Islamic Studies

372. Islamic Awakening: Revival and Reform. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 325; also C-L: Islamic Studies, Policy Journalism and Media Studies

372FS. Islamic Awakening: Revival and Reform. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 225FS

373. Islamic Mysticism: Perso-Indian (Eastern) Traditions. CCI, CZ, EI Teachings, texts, and institutions of Sufism as it expanded from Iraq and Iran to India and Indonesia, from twelfth to the twenty-first century. C-L: International Comparative Studies. Instructor: Staff. One course. C-L: International Comparative Studies 380, Islamic Studies, Ethics Courses Offered Through Other Departments

374S. Muslim Philosophy and Theology, an introduction. CZ, EI Philosophy and theology as the foundation of Shari'a law; Islamic philosophy as a part of medieval philosophy under the influence of Plato, Aristotle and Plotinus. Impact on western philosophers such as Thomas Aquinas; major concepts, issues of Islamic philosophy and translation of two trends: from Greek to Arabic, from Arabic to western languages.
Brief discussion on mysticism, ethics and politics. Instructor: Kadivar. One course. C-L: Study of Ethics 235S, Islamic Studies

375. Islamic Civilization I. CCI, CZ, EI First part of two-course sequence providing an extensive survey of Muslim peoples and institutions. The Middle Eastern origins and cultural attainments of medieval Islam. Instructor: Hassan, Moosa or staff. One course. C-L: Cultural Anthropology 256, History 210, Medieval and Renaissance Studies 268, Information Science and Information Studies, Islamic Studies, Ethics Courses Offered Through Other Departments

376. Islamic Civilization II. CCI, CZ, EI Continuation of Religion 375. Instructor: Hassan, Moosa, or staff. One course. C-L: Cultural Anthropology 257, History 211, Medieval and Renaissance Studies 269, International Comparative Studies, Islamic Studies, Ethics Courses Offered Through Other Departments

378. Islam in Central Eurasia. CCI, CZ, SS One course. C-L: see Russian 370; also C-L: History 209, International Comparative Studies, Islamic Studies

380. Muslim World: Transformations and Continuities. CCI, SS One course. C-L: see Cultural Anthropology 250; also C-L: International Comparative Studies 170, Women's Studies

384S. Islam in the Americas. CCI, CZ, SS, W Explores how Muslim communities live and practice Islam in the American context. Examines diverse Muslim communities emerging from transatlantic exploration, trade in slaves, and migration as well as indigenous conversion. Discussion of religious and cultural identities of American Muslim peoples and consideration of questions of communal organization, religious authority, gender dynamics, youth culture, political and civic engagement, as well as American Muslim comedy and entertainment. Examination of impact of 9/11 upon American Muslims, their responses to the tragedy, and Americans' shifting perceptions of Islam and Muslims Instructor: Hassan. One course. C-L: History 351, African and African American Studies 274S, Islamic Studies

385. Muslims in the West. CCI, CZ, SS One course. C-L: see Cultural Anthropology 252; also C-L: Islamic Studies

386. Introduction to Islamic Communities in North Carolina. CCI, CZ, SS One course. C-L: see Asian & Middle Eastern Studies 339; also C-L: Islamic Studies

388S. Muslim Ethics and Islamic Law: Issues and Debates. CCI, CZ, EI Premodern judicial arrangements and the contestations surrounding their modern incarnations. Topics include bioethics, gender and family law, war and peace, environmental issues, and political ethics. Instructor: Moosa. One course. C-L: Islamic Studies, Ethics Courses Offered Through Other Departments

390A. Duke-Administered Study Abroad: Advanced Special Topics in Religion. CZ Topics differ by section. Instructor: Staff. One course.

390S. Junior-Senior Seminars. CZ Topics and instructors to be announced. Instructor: Staff. One course.

391. Independent Study. See Religion 291. For juniors and seniors with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

392. Independent Study. See Religion 291. For juniors and seniors with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R See Religion 293. For juniors and seniors with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

394. Research Independent Study. R See Religion 293. For juniors and seniors with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

415S. Capstone Seminar: Sex, Celibacy, and Purity in the Middle Ages. CCI, CZ, EI, R One course. C-L: see History 459S; also C-L: Medieval and Renaissance Studies 426S

490S. Junior-Senior Seminars. CZ Topics and instructors to be announced. Instructor: Staff. One course.


550. Archaeology of Palestine in Hellenistic-Roman Times. CCI, CZ, STS The study of material and epigraphic remains as they relate to Judaism in Hellenistic-Roman times, with special emphasis on Jewish art. Instructor: E. Meyers. One course. C-L: Jewish Studies 550


609. Rabbinic Hebrew. FL Interpretive study of late Hebrew, with readings from the Mishnah and Jewish liturgy. Consent of instructor required for undergraduates. Instructor: E. Meyers or staff. One course. C-L: Jewish Studies 609


630-11. Exegesis of the Greek New Testament II: The Synoptic Gospels. Concentration on the "classical" methods of studying the first three gospels: source criticism, form criticism, and redaction criticism. Some attention to textual criticism. Students expected to become proficient in using the Greek synopsis. Prerequisite: two years of Greek or the equivalent. Consent of instructor required. Instructor: Goodacre. One course.

631. Biblical Interpretation in Early Christianity. CZ, EI How early Christian writers of the second—mid-fifth centuries made meaning of the Scriptures in their own, postbiblical environments. Focus on the new historical, religious, and theological situations that required new readings of scriptural texts, the role of heresy and the ascetic movement in the development of biblical interpretation and canon development, and special problems that arose around these issues. Instructor: Clark. One course.

632. Origen. CZ, EI The systematic and apologetic writings of an important Alexandrian thinker and exegete of the third century. Instructor: Clark. One course. C-L: Medieval and Renaissance Studies 662


650. Theological Anthropology: Critical Modernists. CZ This seminar will look at theological anthropology in the work of 20th century theologians who develop the tradition of Schleiermacher, a group known as critical revisionists (or revisionist modernists). After recognizing Schleiermacher's contribution, the course will treat theological anthropology in selected contemporary figures such as Paul Tillich, David Tracy, Gordon Kaufman, and Edward Farley. Prerequisite: XTIANTHE 32 or permission of instructor. Instructor: Mary M. Fulkerson. One course.

659. Freedom and Law. Lecture course will explore the centrality of freedom and law to doctrine of God as well as to the understanding of the human being and unfold their complex interrelationship in the traditions of theology and philosophy. Also taught as Christian Theology 285. Instructor: Huetter. One course.

660. Justice, Law, and Commerce in Islam. CZ, EI History and schools of Islamic jurisprudence; Islamic legal reasoning; approaches to ethics and procedural justice, the ethical regulation of commerce, including a detailed study of pertinent issues in Islamic law. Also taught as Law 568. Instructor: Moosa. One course. C-L: African and African American Studies 575, Medieval and Renaissance Studies 659, International Comparative Studies, Islamic Studies

662S. Muslim Networks Across Time and Space. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 629S; also C-L: Islamic Studies

663. Islam and Modernism. CCI Cultural, religious, and ideological forces that shape Muslim responses to modernism. Instructor: Staff. One course. C-L: International Comparative Studies, Islamic Studies

664. The Religion and History of Islam. CCI, CZ, R Investigation of the historical study of Islam: historiography as a discipline, the historical study of Islam in the Western world, Muslim views of Islamic history. Required critical essays and major research paper. Instructor: Staff. One course. C-L: International Comparative Studies, Islamic Studies

680S. Buddhist Thought and Practice. CCI, EI A historical introduction to Buddhist thought and practice, with special attention to their interrelationship in the living religion. Instructor: Jaffe. One course. C-L: International Comparative Studies

690S. Special Topics in Religion. CZ Subject varies from semester to semester. Instructor: Staff. One course.

THE MAJOR

Major Requirements. Ten courses. Religion 101 is required. At least six courses must be numbered 200 or above. One course must be a Religion Department independent study taken in the junior or senior year, a small group learning experience/seminar taken during the junior or senior year, or a Religion Department honors project. The student will select, from a list of appropriate courses, at least one course apiece for each of three different religious traditions. In addition, the student, also in consultation with his or her advisor and
with the advisor’s approval, will choose a set of four courses that constitute a thematic or methodological focus on a particular aspect of religion. Only two approved study abroad courses can count towards the major. Only one Divinity School course can count towards the major, and that course cannot be equivalent to a course offered by the Religion Department. Students interested in taking Divinity School courses should consult the director of undergraduate studies regarding credit towards the religion major.

**Departmental Graduation With Distinction**

The Religion Department has a program for Graduation with Distinction (see the bulletin under that heading). This program is intended for the outstanding religion major whose grade point average is at least 3.5 in religion (and 3.3 overall) and who has demonstrated the desire and talent to pursue independent research. The student, under the supervision of an advisor, will produce an honors thesis of exceptional quality. The main advisor is normally a faculty member in the department already familiar with the student’s work.

**THE MINOR**

The religion minor offers students specializing in another department or program the opportunity to enrich their studies by engaging in the consideration of religion, which is one of the constitutive elements of human existence.

**Minor Requirements.** A minimum of five religion courses, at least one of which must be numbered 200 or above. Minors are encouraged to take Religion 101. Only one approved study abroad course can count towards the minor. Only one Divinity School course can count towards the minor, and that course cannot be equivalent to a course offered by the Religion Department. Students who wish to take Divinity School courses should consult the director of undergraduate studies regarding credit towards the religion minor.

**Foreign Languages**

To prepare for graduate or professional study of religion, the department recommends that students complete at least four courses in college-level study, or the equivalent, of a modern foreign language. Master of Arts and Doctor of Philosophy programs often require examination in one or two modern foreign languages. Those planning to study religious traditions whose documents are in a language other than English should begin appropriate language study as part of their undergraduate preparation.

**Romance Studies (ROMST)**

Professor Dainotto, Chair; Professor Jenson, Director of Undergraduate Studies Professor of the Practice Tufts, Director of French Language Program; Assistant Professor of the Practice Fellin, Director of the Italian Language Program; Assistant Professor of the Practice Paredes, Director of the Spanish Language Program; Professors Aravamudan, Bell, Dainotto, Dubois, Finucci, Greer, Hardt, Jameson, Jenson, Longino, Mignolo, Moi, Solterer; Associate Professors Gabara, Rodriguez-García, Rosa, Sieburth, Viego; Assistant Professors , Eisner, Milian, Saliot; Professors Emeriti Damasceno, Fein, Garci-Gómez, Hull, Kaplan, Keineg, Orr, Osuna, Stewart, and Thomas; Research Professors Dorfman, Garrêta

A major (in French, Italian, Spanish or Romance studies) or a minor is available in this department.

**Prerequisites for all courses numbered 100 or above not taught in English:**

**Courses:**
- French 204, 212 or equivalent
- Italian 204, 212, 213, or equivalent
- Portuguese 203 or 204, or consent of instructor
- Spanish 204, 212, or equivalent

**or SAT II:**
- French: score of 640+
- Italian: score of 640+
- Spanish: score of 660+

**or AP:**
- Spanish literature exam: score of 4 or 5
- French, Italian or Spanish language exam: score of 5
Students may submit AP scores for credit as well as placement in French, Italian or Spanish. Credit is awarded as follows:

- 4 or 5 on AP Literature = credit for 204/placement at 300 level
- 5 on former AP Language = credit for 204/placement at 300 level
- 5 on new AP Language and Culture = credit for 204/placement at 300 level
- 4 on new AP Language and Culture = placement in 204

Students who by reason of foreign residence have advanced proficiency in French, Italian, Portuguese, or Spanish must be placed by the director of undergraduate studies.

**ROMANCE STUDIES (ROMST)**

**190A. Duke-Administered Study Abroad: Special Topics in Romance Studies. CCI** Topics differ by section. Instructor: Staff. One course.

**190FS. Topics in Romance Studies. ALP, CCI** Topics vary each semester offered. Open only to students in the Focus Program. Instructor consent required. Instructor: Staff. One course.

**201. Europe in Theory. ALP, CCI, CZ, R** Exploration of the idea of Europe as a political, moral, and cultural identity. Examines the construction of such identity throughout history, ending with today's European Union, at a moment in which integration of "Eastern" countries such as Turkey or Russia remains a hotly debated issue. Consistent attention devoted to literary, cinematic and artistic works which attempt to imagine a European Culture, as well as the evolution of aesthetics, and literary and art history. Instructor: Dainotto or staff. One course. C-L: French 201, Italian 201, Literature 273

**201P. Europe in Theory--Preceptorial.** A preceptorial, in Italian or French, requiring concurrent enrollment in Romance Studies 201. Further information available from instructor. Instructor: Dainotto, Solterer or staff.

**203. Machiavellian Persuasion: Rhetoric from Plato's Cave to Political 'Spin'. ALP, CCI, CZ** Investigation of how rhetoric constructs social experience. Mechanisms of rhetorical persuasion in major literary texts (Dante, Cervantes, Rousseau, Garcia-Marquez) and memorable cultural moments (Haitian Revolution, fascism, Vichy France, Latin American dictatorships) in global Romance studies traditions. The neuroscience, anthropology, and economics of tropes. Instructor: Eisner, Jenson, or staff. One course.

**291-1. Independent Study.** Individual study in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and Director of Undergraduate Studies required. In English. Instructor: staff. Half course.

**345. Representing Haiti. CCI, CZ, R, STS** Merges cultural study of representations of Haiti with initiatives in multimodal expression of research. Themes addressed: humanitarianism; NGOs; HIV; "boat people" and other tropes of migration; the "restavèk" or child domestic worker; hip hop; Haiti and hemispheric partnerships; Haiti and the Left; Haiti and the Right; the "failed state" in contemporary global politics; postcoloniality before postcolonialism; Haiti and language; religious identities. Research projects may include development of the Haiti Lab’s Second Life "Haiti Island," development of a virtual Creole language learning space; gps mapping; or collection of research data through cell phone technology. Instructor: Jenson/Szabo. One course. C-L: Information Science and Information Studies 215, Visual and Media Studies 251

**360. Secularization and Modernity: Cross-Disciplinary Readings 1750-1914. ALP, CCI, CZ, EJ, R** One course. C-L: see English 285; also C-L: Sociology 348, Political Science 374, German 376, Literature 243

**391. Independent Study.** Individual study in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and Director of Undergraduate Studies required. In English. Instructor: staff. One course.

**395T. FHI Humanities Lab Tutorial. R** Tutorial in English for participants in FHI Labs. Discussion group for up to five students. Instructor: Jenson. One course.
411S. Eros in the Renaissance. ALP, CZ, R, W  The theme of eros, desire or love, in Renaissance Italy and France, with attention to questions of sexuality and gender. Prose readings, lyric poetry, as well as Plato's Symposium and Ovid's Metamorphoses. Writing and Research intensive. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 462S

490. Topics in Romance Studies. A comparative study of languages, literatures, and/or cultures related to Romance Studies. Instructor: Staff. One course.

490S. Topics in Romance Studies. ALP, CZ  A comparative study of languages, literatures, and/or cultures related to Romance Studies. Instructor: Staff. One course.

501S. Methods and Theories of Romance Studies. ALP, CCI, R  Provides students in any PhD track of the department of Romance Studies with fundamental training in both general literary theory and in the specific methods of romance criticism. Instructor: Staff. One course. C-L: Literature 540S

509S. Issues in Second Language Acquisition. FL, R, SS  Advanced applied linguistics course examining different areas of interests in the field of second language acquisition (SLA). Overview of main research areas in the field. Topics include: Language Testing, Action Research in SLA, Communicative Language Teaching, the role of classroom instruction in SLA, or the relationship between SLA research and foreign language learning. Students expected to become conversant with the research literature in the area and the different methodologies used in SLA research, carry out a classroom-based quantitative and/or qualitative research project, and produce a research paper that might be submitted to relevant conferences. Topics vary each year. Consent of instructor required. Instructor: Staff. One course.

520S. Translation Studies and Workshop. ALP, CCI, CZ, W  One course. C-L: see Theater Studies 530S; also C-L: Asian & Middle Eastern Studies 502S

590. Topics in Romance Studies. Topics to be announced. Instructor: Staff. One course.

590S. Seminar in Romance Studies. CCI  Topics to be announced. Instructor: Staff. One course.

690. Topics in Romance Studies. Topics to be announced. Instructor: staff. One course.

690S. Seminar in Romance Studies: Special Topics. ALP, CCI  Topics to be announced. Instructor: Staff. One course.

CREOLE (CREOLE)

101. Elementary Creole I. FL  An introduction to the essential elements of Haitian Creole or Kreyòl language and aspects of Haitian culture. The first of the two-semester sequence of elementary Haitian Creole or Kreyòl, the course provides practice in understanding, speaking, reading, and writing the language, culturally contextualized through units on health care, Haitian women’s rights issues, and unpaid child servants (restavék). Students will acquire enough vocabulary and idioms to be able to interact with Haitians. Taught in Haitian Creole. No pre-requisite. Staff: Jenson and staff. One course.

102. Elementary Creole II. FL  Second course in the two-semester sequence on elementary Haitian Creole provides essential elements of Creole language and aspects of Haitian culture. Course is designed to help students develop speaking, listening, reading, and writing skills in Haitian Creole. Students will be exposed to different aspects of Haitian culture through films, storytelling, games, music, and proverbs. Pre-requisite: Creole I, or French 199, Haitian Creole for the Recovery in Haiti, or a comparable level of previous Creole language experience, such as Duke Engage experience in Haiti or familial background in Creole. Taught in Haitian Creole. Staff: Jenson and staff. One course.

203. Intermediate Creole. FL  First semester of intermediate Haitian Creole or Kreyòl. This course moves beyond "survival skills" in Creole to more complex social interactions and expressions of analysis and opinion. Intermediate skills in understanding, speaking, writing, reading will be contextualized within a broad range of issues such as rural life in Haiti, religion, frenchified Creole vs popular Creole, through texts, poems, and excerpts taken from novels in Haitian Creole. Students will learn to carefully follow contemporary events and

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debates in Haitian culture using internet resources in Creole. Pre-requisite: Creole 1 and Creole 2, or French 199 and Creole 2. Taught in Haitian Creole. Staff: Jenson and staff. One course.

FRENCH (FRENCH)
89S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.
89S-1. First-Year Seminar in French. FL Seminar for first-year undergraduates with the desire and ability to take courses in literature, history, culture, art, cinema, or drama in French at the 300-level. Topics vary each semester offered. Prerequisite: SAT II score of 640 or above, AP Language score of 5. Native speakers or students who did high school work in French encouraged to enroll after consulting with instructor. Instructor: Staff. One course.

101. Elementary French 1. FL Introduction to the essential elements of French language and aspects of French/Francophone cultures. Open to students who have never studied French before, or to those who have not studied French more than two years in high school. Practice in understanding, speaking, reading, and writing the language. Includes computer, video, and audio labs. Five class meetings a week. Instructors: Tufts and staff. One course.

102. Elementary French 2. FL Continues work on the essential elements of French language and aspects of culture. Aural comprehension, speaking, reading, and writing activities receive equal attention. Requires work in the language and computer laboratory. Classes conducted in French. Open only to students who have a SAT II French score no higher than 420-480, or who have studied French for no more than three years in high school. Four class meetings a week. Instructor: Tufts and staff. One course.

111. Intensive Elementary French. FL Covers the basic elementary French language curriculum (French 101-102) in one semester. Not open to students who have studied French for more than two years pre-college. Practice in understanding, speaking, readings, and writing French, and an introduction to some aspects of French/francophone cultures. Computer, video, and audio laboratory work required. Eight class hours a week. Instructors: Tufts and staff. Two courses.

201. Europe in Theory. ALP, CCI, CZ, R Exploration of the idea of Europe as a political, moral, and cultural identity. Examines the construction of such identity throughout history, ending with today's European Union, at a moment in which integration of "Eastern" countries such as Turkey or Russia remains a hotly debated issue. Consistent attention devoted to literary, cinematic and artistic works which attempt to imagine a European Culture, as well as the evolution of aesthetics, and literary and art history. Instructor: Dainotto or staff. One course. C-L: Romance Studies 201, Italian 201, Literature 273

203. Intermediate French Language and Culture. CZ, FL The first half of the two-semester program of intermediate French. Review of basic grammar; introduction to second language reading as a process; emphasis on understanding the cultural implication of written and visual texts; guided writing practice. Resources include audiotapes, computer tutorials, and videotapes. Prerequisite: French 102 or 111 at Duke, or SAT II score of 490-580, or AP Language Test score of 3 in French. Instructors: Tufts and staff. One course.

204. Advanced Intermediate French Language and Culture. CZ, FL The second half of the two-semester program of intermediate French. Focus on building higher proficiency levels in all four skills. Intensive grammar review and daily reading and in-class discussion of texts of varying lengths and styles which increase in difficulty as the semester progresses. Guided essay writing on topics related to the readings and discussion. Prerequisite: French 203 at Duke, or SAT II score of 590-630, or an AP Language Test score of 4. Instructors: Tufts and staff. One course.

212. Intensive Intermediate French Language and Culture. FL Covers the intermediate French language curriculum (French 203, 204) in one semester. Increased attention to grammatical variety and accuracy; guided writing practice; development of second language reading skill with increasing emphasis on critical analysis of cultural and literary texts. Resources include audiotapes, computer tutorials, videotapes, and French language websites. Six class hours a week. Prerequisite: French 101-102 or 111 at Duke, or SAT II score of
490-580, or AP Language Test score of 3 in French, or consent of director of language program. Instructors: Tufts and staff. Two courses.

301. Advanced French Language/Writing Workshop. CCI, FL, W Development of competence in written expression in French, with special emphasis on stylistic variations, lexical nuances, and complex grammatical structures. Practice of different forms of French rhetoric and different styles in creative, argumentative, and analytical writings through literary, journalistic, historical, and philosophical texts. Revision and rewriting, with focus on in-class analysis and critique and individual conferences. Prerequisite: French 204, or AP Language Test score of 5, or equivalent. Instructors: Tufts and staff. One course.

302S. Cultural and Literary Perspectives. CCI, FL, W Designed to give students leaving intermediate French the reading and writing skills necessary to enter 100-level courses in French studies. Cultural and literary texts introducing students to contemporary French thought, and to how cultural practices, globalization, and immigration influence the formation of a French identity. Topics include stereotypes, family life, cuisine, youth culture, sports, language, media, and politics. Prerequisites: French 204, SAT French score of 640 or above, AP French Language 5, or equivalent. Instructor: Tufts and staff. One course.

303S. French for Current Affairs. CCI, FL Contemporary culture/civilization course on changes/controversies in France today. Sources from French media (press and TV). Current cultural, social, economic, political issues. Includes political institutions, media, religion, immigration, health and educational systems, foreign policy, France in the European Union. Equal emphasis on written/oral skills. Instructor: Tufts and staff. One course.

304. French Composition and Translation. CCI, FL Advanced Translation and Stylistics. Cultural and social difference between French and English patterns in written and oral expression. Extensive practice in translation of different types of texts. Equivalencies between French and English. Prerequisite: French 301 or equivalent or consent of instructor. Instructor: Staff. One course. C-L: Linguistics 304

306S. Approaches to French Literature and Theory. ALP, CCI, FL, W An initiation to French literature and thought. Introduces a wide range of critical and theoretical tools to study literature and its uses. This seminar explores how most urgent political and philosophical issues of the ages can be read through and unravelled within literary texts. Authors studied may include Montaigne, Montesquieu, Racine, Diderot, Balzac, Baudelaire, Flaubert, Sartre, Césaire, Duras, Fanon, Perec and Glissant. Instructor: Saliot. One course. C-L: Visual and Media Studies 333S

321S. Business and Culture in the Francophone World. CCI, FL Analyzes current socio-economic and cross-cultural issues to increase understanding of global marketplace. Focus on oral and written communication, business and economic practices, labor issues, case studies, and product marketing in the Francophone world. Prerequisites: French 204, SAT French score of 640 or above, AP French Language 5, or equivalent. Instructor: Reisinger. One course. C-L: International Comparative Studies 357S

322S. France, the "Universal" Nation. CCI, CZ, FL The concept of "nationhood" and French national identity, with its "universal" sense of reason and justice, and its specific and "exceptional" qualities, including a commitment to a secular state, as compared to the American model. Instructor: Staff. One course. C-L: International Comparative Studies

323. Les Autres Frances. ALP, CCI, CZ, FL Exploration of linguistic and ethnic minorities within France, with an emphasis on Corsica, Alsace, and Brittany. The future of these minorities in the context of the European Community. Includes novels, films, essays, paintings, audio-archives. Instructor: Staff. One course.

324S. Contemporary Ideas. CCI, CZ, FL Readings and discussion of French works which have provoked political or intellectual thought in recent years. For freshmen and sophomores only. Instructor: Staff. One course. C-L: International Comparative Studies

326. Creative and Practical Writing Workshop. ALP, CCI, FL, W Workshop developing writing skills in a variety of practical and literary genres. Study of examples of each genre. Recommended for majors and students returning from study abroad in French speaking countries. Native speakers need consent of instructor.
Not open to students who have taken course as French 428. Prerequisite: At least two French courses at the 300-level, or equivalent. Instructor: Staff. One course.

**327S. French for Freshmen and Sophomores.** ALP, CCI, FL A literary, cross-cultural critique focusing on specific topics to be announced. Open only to freshmen and sophomores. May be repeated. Instructor: Staff. One course.

**328SA. Made in Queb ec: Marketing and Cultural Identity.** CCI, FL, R, SS Develop intercultural competencies focusing on regional, linguistic, and cultural factors contributing to Québec's unique markets. Readings from texts and authentic cultural documents (policy, business journals, newspapers, audio and video reports). Active learning and teamwork-based projects to enhance critical thinking will form the basis of coursework. Assignments include a company portfolio, case study, and digital marketing project. Part of the Duke in Montreal Program. Instructor: Reisinger. One course. C-L: Canadian Studies 328SA, Canadian Studies, Markets and Management Studies

**329S. French Phonetics.** FL Theory and practice of French pronunciation, corrective phonetics, intonation, accentuation, syllabification, elision and liaison. Focus on areas of speech production in French that are generally the most difficult for native speakers of English. Comprehension, dictation, and recitation exercises; interactive video and audio activities; self-assessment tasks; and end-of-term individual improvement grade. Instructor: Tufts. One course. C-L: Linguistics 302S


**331. French Comedy.** ALP, CCI, FL The theatrical tradition of comedy and its evolution, with emphasis on Molière, Marivaux, and Beaumarchais, and other readings from Pathelin to Ionesco. Introduction to theory of comedy from Molière to Freud. Instructor: Staff. One course.

**332. The French Short Story.** ALP, CCI, FL The history of short fiction focusing on exemplary texts from various historical periods, beginning with the Middle Ages. Instructor: Solterer. One course.

**333S. Poetry.** ALP, CCI, FL, W Exploration of the rich and varied corpus of French and Francophone poetry from the medieval epic to surrealism and beyond. Instructor: Staff. One course.


**337. French Scientists Write.** ALP, CCI, FL Texts by pioneering French scientists in various historical periods: Descartes, Diderot, Claude Bernard, Henri Poincaré, François Jacob. No science prerequisites; not a technical course, but an exploration of the elegance and clarity of best scientific writing in France. Instructor: Bell. One course.


**339S. The Pleasure of Reading.** ALP, CCI, FL Developing a level of reading proficiency in French comparable to one's native language. Reading a variety of genres including works by French and francophone
authors from mid-nineteenth to the twentieth-first century. Prerequisite: French 204 or equivalent. Instructor: Tufts or staff. One course.

340A. Sociology of Culture. CCI, CZ, FL Exploration of the imprecise notion of popular and mass culture—globally as the interpretation of behavior, and locally, regionally, or nationally as the collective expression and rituals of a group: for example, hip hop, soccer, or business culture. Study of who produces culture, how it is disseminated, what are cultural practices today, and the relationship between political and cultural practices (Taught in Duke in France). Instructor: Staff. One course.

343A. Advanced Expression. CCI, FL Intensive practice in speaking and writing. Offered only in the Duke in France Program. Instructor: Staff. One course.

345A. Aspects of Contemporary French Culture. CCI, CZ, FL Cultural questions that are associated with contemporary France. French urbanism, mentalities, habits, and social rituals as they appear to be different from American practices. Topics to be announced. Offered only as part of the summer program in Paris. Instructor: Staff. One course. C-L: International Comparative Studies

346AS. Aspects of French Literature. ALP, CCI, FL Concentration on single authors, genres, movements, or themes. Topics to be announced. Offered only as part of summer program in Paris. Instructor: Staff. One course.

347A. Topics in French Literature and/or Culture Abroad. ALP, CCI, CZ Topics to be announced. Taught in English. Instructor: Staff. One course.

354. French in the New World. ALP, CCI, CZ, FL Francophone languages and cultures in Canada, New England, Louisiana and the Caribbean. Origins, history, and linguistic characteristics as well as current political, linguistic, and cultural issues studied from fictional texts, documents, or audio-visual productions. Instructor: Staff. One course. C-L: International Comparative Studies 265

355. Childhood in French Culture. ALP, CCI, FL Childhood in French culture since the nineteenth century, beginning with Rousseau's Emile. Novels, poetry, essays, films. Instructor: Staff. One course.

356. France's Cultural Legacy in the New World: Quebec. ALP, CCI, CZ, FL Culture and literature of Quebec and French Canada; best of poetry, novels, drama, essays, and films. Instructor: Staff. One course. C-L: Canadian Studies

360S. French Literature and/or Culture (in English). ALP, CCI, CZ Topics to be announced. Taught in English. Instructor: Staff. One course.

361. The French Love Story. ALP, CCI A history of the representation and social structuring of affective relationships in France, through close analysis of French novels and theory. Examine significations of love in the life, image and identity of the French from French perspective(s). Readings from classical texts (Plato), literary criticism (Rougemont and Girard), psychoanalysis (Freud, Lacan), and contemporary theory (Barthes); and the novels of Mme de LaFayette, Constant, Flaubert, Proust, Colette, and Duras. In English. Instructor: Longino. One course. C-L: Women's Studies 208, Literature 262

390A. Topics in French Literature and Culture. ALP, CCI, FL Topics to be announced. (Offered only in the Duke-in-France Program.) Instructor: Staff. One course.

390A-1. Topics in French and/or Francophone Culture Abroad. CCI, CZ, FL Topics may vary. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

394. Research Independent Study. R See French 393. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.
410S. Contemporary French Fiction. ALP, CCI, FL Novels published in France during the past decade. Fashions, fads, new trends, succés de scandale, and prize winners. Instructor: Staff. One course.

411. Twentieth Century French Theater. ALP, CCI, FL Topics may include: Alfred Jarry (1896) and "Theater of the Absurd" of 1950's, French stage and WW II, post-May 1968 political theater; regional theater; francophone theater; women writers; directors and actors. Instructor: Tufts or staff. One course. C-L: Theater Studies 226


413. World War II and French Film. CCI, CZ, EI, FL Film scripts, memoirs, novels, political and social history, and cinematic technique that inform the viewing of French films on World War II. Possible films to be viewed: Clément's Jeux interdits, Malle's Au revoir les enfants and Lacombe Lucien, Miller's L'accompagnatrice, Yanne's Boulevard des hirondelles, and Lanzmann's Shoah. Instructor: Staff. One course. C-L: Arts of the Moving Image 261, History 295, Visual and Media Studies 310

414. Comics and Culture: Images of Modern France in the Making. ALP, CCI, FL An investigation of the French comic strip over the last century from a historical, sociological, and technical perspective. Topics include political satire, Nazi propaganda, regional and national stereotypes, the role of women, and the influence of cinema and television. Readings include original works, interviews, critical articles, and related historical cultural, and technical studies. Instructor: Tufts. One course. C-L: Visual and Media Studies 311


416. Contemporary Culture Wars. CCI, CZ, EI, FL Fiction, film, and essays that deal with the problems in French and immigrant culture: integration, religion and international relations. Instructor: Staff. One course. C-L: Visual Studies 313


421. Les Educations Sentimentales. ALP, CCI, FL The theme of growing up and falling in love for the first time in modern French literature, beginning with bildungsroman of the early twentieth century and ending with work from the AIDS era. Instructor: Staff. One course.

422. North of the Border: The Novel in French Canada. ALP, CCI, CZ, FL The Quebec novel from the late nineteenth century to the twenty-first: the Quiet Revolution (1960) and the independence movement, transformation away from nationalism to a new multicultural society. Instructor: Staff. One course. C-L: Canadian Studies, International Comparative Studies

423. French Science Fiction. ALP, CCI, CZ, FL The science fiction and utopia genres in French and Francophone literature and culture from the late XIXth-Century to the extreme present. Instructor: Staff. One course.

424S. French Literary History and Theory. ALP, CCI, FL Major writers and genres of French literary tradition from Middle Ages to the present; problem of establishing reliable texts; varieties and purposes of literary research. Capstone course principally for French majors. Instructor: Staff. One course.

425. France in the Making: Language, Nation, and Literary Culture in Premodern Europe. CCI, CZ, FL Origins and transformations of French imaginaries. Inquiry into earliest myths/images, including crusade and holy war, which pitted France and Europe against Arab and Muslim world. Fictional, historical chronicle, autobiography, and film exploring how first ideas of France in the West were forged through conflict--war, foreign occupation, American "new France" settlement. Instructor: Solterer. One course. C-L: Medieval and Renaissance Studies 465, International Comparative Studies


427. Turmoil in Nineteenth-century French Society. ALP, CCI, FL Fiction, film, history, essays on political turmoil that shaped the modern French state: Revolutions, empires, colonization, immigration. Instructor: Staff. One course.

428. Sexuality and Gender Studies. ALP, CCI, EI, FL Differences redefined and questioned in terms of the relationship between sexual identity, social ethos, and ethical conventions. Works may be by women or men writers, critics, sociologists, and thinkers from France and francophone countries and including historical points of view. Instructor: Staff. One course. C-L: Women's Studies

480D. Global France. ALP, CCI, CZ, EI Explores connections between France's imperial history in Africa, Asia and the Americas and contemporary cultural/ political debates about citizenship, integration and belonging in France from 17th century to present. Analyzes ethical dilemmas posed by colonialism. Includes novels (e.g., works by Dumas, Camus, Cesaere, Fanon, Djebar, Chamoiseau), films, music, historical documents, cultural/literary criticism, social/political theory, legal documents and writings on government policy. Weekly lecture in English and two discussion sections: one in English, one in French. French section will do reading and written work in French. Prerequisite: one 300-level French course to enroll in French section. Instructor: DuBois. One course. C-L: History 274D, Cultural Anthropology 274D

481D. Flaubert's Brain: Neurohumanities. ALP, CCI Consideration of 'realist' fiction of Gustave Flaubert from social and cognitive neuroscience perspective. Investigation of implications of Flaubert's illustration of cognitive, affective, and somatic experiences of his characters, and his own experience, e.g. lapses of consciousness, convulsions, heightened emotions. Use of digital resources to chart emerging discourses and patterns in documentation of neuropathology, while attempting to define unique properties of fiction as literary 'technology', e.g. by consideration of realist mimesis as analogous to mapping and other technologies documenting brain function/dysfunction. Lecture in English, with discussion sections in English or French. Instructor: Jenson. One course. C-L: Literature 246D, Neuroscience 241D

490A. Advanced Topics in French and/or Francophone Literature/Culture Abroad. ALP, CCI, FL Topics may vary. Instructor: Staff. One course.
490S. Special Topics in French Literature. ALP, CCI, FL A cross-cultural analysis focusing on specific literary or cultural French or Francophone topics to be announced. Open to juniors and seniors. May be repeated. Instructor: Staff. One course.

493. Research Independent Study. R See French 393. Open only to qualified seniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

494. Research Independent Study. R See French 393. Open only to qualified seniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

495. Honors Thesis. R Preparation and writing of research paper for "departmental distinction." Consent of both the instructor and the director of undergraduate studies required. See section on honors in Bulletin. Instructor: Staff. One course.

506. Contemporary French Extreme Fiction. ALP, CCI, FL Contemporary innovations and new models of narration at beginning of the twenty-first century. May include the autoportrait (Leiris, Père, Roubaud), the documentary (Bon, Kuperman, Bergougnioux, Houellebecq), and the minimalist school (Chevillard, Echenoz, Deville, Lenoir). Instructor: Staff. One course.

510. Citizen Godard. ALP, CCI, W This course explores the complex interactions of poetics and politics in the films of Jean-Luc Godard, from the French New Wave, through the experimental phase of the Dziga Vertov group, to the recent Histoire(s) du cinéma and Film socialisme. Drawing on a wide range of literary and philosophical texts (Merleau-Ponty, Althusser, Deleuze, Rancière), this seminar situates Godard's work within its intellectual and political contexts, investigating how developments in French culture and thought since 1950 have been reflected in - and sometimes anticipated by - Godard's films. In English with preceptorial available in French. Instructor: Saliot. One course. C-L: Arts of the Moving Image 642, Visual and Media Studies 552

510P. Citizen Godard Preceptorial. A preceptorial, in French, requiring recurrent enrollment in French 210. Further information available from instructor.


530. Medieval Fictions. ALP, CCI, FL Premodern Times: A User's Manual. Introduction to the earliest languages, literatures, and cultures in France and across Europe. Topics include orality and literacy, the experience of allegory, fictionality, the modern uses of the past. Major writers include the inventor of romance, Chrétiens de Troyes, Provencal troubadours and trouvères, Guillaume de Machaut, the first professional writer, Christine de Pizan and Alain Chartier. Instructor: Solterer. 3 units. One course. C-L: Medieval and Renaissance Studies 642, Literature 541

556. Modern Literature and History. ALP, CCI, CZ, FL The interaction of history and literature in a particular period, for example: the occupation of France, the French Revolution. Problems of interpretation, historical memory, social identity, and narrative. Instructor: Staff. One course. C-L: History 587

571. French Symbolism. ALP, EI, FL Poetry and literary theories of Baudelaire, Rimbaud, Mallarmé. Writings of Laforgue, Lautréamont, Huysmans, Louys, and others as they define new aesthetical and ethical values in the framework of the Symbolist and the Decadent intellectual movements. Instructor: Staff. One course.

572. Paradigms of Modern Thought. ALP, FL, R An introduction to contemporary French philosophy and thought with a focus on identity and difference, truth and falsehood in enunciation, globalization and nationalism. Research work in French. Instructor: Staff. One course.

590. Topics in Early Modern Studies. ALP, FL, R Pursuits of knowledge and the shaping of the individual. Literature of travel, science, sexuality, meditation, worldliness, theater, politics by well known and lesser known authors of seventeenth-century France. Genres may include fables, letters, memoirs, sermons, treatises, novels, plays. Instructor: Longino. One course. C-L: Medieval and Renaissance Studies 590-1
590S. Seminar in French Literature. ALP, CCI, FL Cross-cultural analysis of literary and cultural topics focusing on specific objects of inquiry. May be repeated. Instructor: Staff. One course.

690-1. Topics in French Literature of the Eighteenth Century. ALP, FL Close study of a particular author, genre, or interpretive category of Enlightenment literature. Instructor: Staff. One course.

690-2. Topics in French Literature of the Modern Era. ALP, CCI Close study of a particular author, genre, or interpretive category of the twentieth century. May include issues such as authorship, translation, reception or critical theory. Instructor: Staff. One course.

690S-2. Topics in French Literature of the Modern Era. ALP, CCI Close study of a particular author, genre, or interpretive category of the 20th century. May include issues such as authorship, translation, reception or critical theory. Instructor: Staff. One course.

ITALIAN (ITALIAN)

101. Elementary Italian 1. FL Introduction to the basic elements of Italian language and culture. Equal attention to aural comprehension, speaking, reading, and writing. Conducted in Italian. Not open to students with prior knowledge of Italian. Four class meetings a week. Instructor: Fellin and staff. One course.

101A. Italian for Beginners. FL Practice in understanding, speaking, reading, and writing. (Taught in Duke-administered programs in Italy.) Placement tests administered to returning students intending to continue in Italian language studies. Instructor: Staff. One course.

102. Elementary Italian 2. FL Italian 102 develops and expands elements acquired in Italian 101: aural comprehension, speaking, reading, and writing. Conducted in Italian. Four class meetings a week. Prerequisite: Italian 101 or placement through the Director of the Italian Language Program. Instructor: Fellin and staff. One course.

111. Intensive Elementary Italian. FL Covers the basic elementary curriculum Italian 101 and 102 in one semester. Listening, speaking, reading, writing, and cultural exploration activities receive equal attention. Meets five times a week, eight contact hours. Instructor: Fellin or staff. Two courses.

112. Accelerated Elementary Italian. FL Covers the elementary Italian Language curriculum (Italian 101-102) in one semester. Development of understanding, speaking, reading, and writing skills. Introduction to aspects of Italian life and culture. Four class meetings a week. Instructors: Fellin and staff. One course.

130FS. Focus Topics in Italian Literature and Culture. ALP, CCI, CZ Topics on single authors, genres, movements, or themes across centuries. Taught in English. Topics course. Open only to students in the Focus program. Instructor: Finucci. One course.

201. Europe in Theory. ALP, CCI, CZ, R Exploration of the idea of Europe as a political, moral, and cultural identity. Examines the construction of such identity throughout history, ending with today's European Union, at a moment in which integration of "Eastern" countries such as Turkey or Russia remains a hotly debated issue. Consistent attention devoted to literary, cinematic and artistic works which attempt to imagine a European Culture, as well as the evolution of aesthetics, and literary and art history. Instructor: Dainotto or staff. One course. C-L: Romance Studies 201, French 201, Literature 273

203. Intermediate Italian. CZ, FL Content-based approach focusing on aspects of Italian culture and contemporary society. Focus on the development of second language reading skills; review of grammar; practice in understanding, speaking and writing. Literary and cultural texts taken from a variety of media. Instructors: Fellin and staff. One course.

204. Advanced Intermediate Italian. CZ, FL Further development of the elements practiced in Italian 101-203. Increased attention to grammatical accuracy and vocabulary development; guided writing practice and development of second language reading skills with emphasis on analysis of cultural and literary texts. Prepares students for 300 level Italian courses. Instructors: Fellin and staff. One course.
212. **Intensive Intermediate Italian. CZ, FL** Covers the basic elementary curriculum (Italian 101 and 102) in one semester. Listening, speaking, reading, writing, and cultural exploration activities receive equal attention. Meets five times a week, eight contact hours. Instructor: Fellin or staff. Two courses.

213. **Accelerated Intermediate Italian. CZ, FL** Covers the intermediate Italian Language curriculum (Italian 203 and 204) in one semester. Attention to vocabulary development and grammatical accuracy. Writing practice and development of reading skills with emphasis on analysis of cultural and literary texts. Prepares students to enroll in courses at the 300 level. Four class meetings a week. Prerequisite: Italian 113 or consent of the Italian Language Director. Instructor: Fellin and staff. One course.

258. **Renaissance Architecture in Italy: Brunelleschi to Michelangelo. ALP, CZ** One course. C-L: see Art History 258; also C-L: Medieval and Renaissance Studies 227

261. **Michelangelo in Context. ALP, CCI, CZ** One course. C-L: see Art History 259; also C-L: Medieval and Renaissance Studies 233

286S. **Opera. ALP, CCI** One course. C-L: see Music 242S

301. **Writing Workshop in Italian. CCI, FL, W** Development of composition tasks related to expository and other forms of writing. Focus on grammatical skills, conventions, and rhetorical techniques for organizing information. Substantial work on the development of writing strategies (vocabulary, editing, revising, and rewriting) through several short papers and a final long paper. Prerequisite: Italian 204, 212, or 213, or consent of the Italian Language Program Director. Instructor: Fellin and staff. One course.

303S. **Italian Sociolinguistics. CCI, CZ, FL, SS** Linguistic diversity in modern Italy. Social and geographic language variation, multilingualism, and the relationship between language and dialect. Special codes, including youth slang, language and politics, language and bureaucracy. Discussion of language and gender, language and racism, linguistic etiquette within Italian society. Instructor: Fellin. One course. C-L: Linguistics 305S

322S. **Italian Popular Culture. ALP, CCI, FL** The formation of Italian popular culture in different historical periods. Emphasis varies; attention paid to serial novels, detective fiction, films, prints, paintings, and popular music. May include older forms of popular culture such as the romances of chivalry, the 'commedia dell'arte,' carnivals, and melodrama. Instructor: Dainotto or Finucci. One course.

323S. **Italian Poetry. ALP, CCI, FL** An introduction to major poets, movements, and techniques of the Italian lyrical tradition. May include different historical periods. Instructor: Dainotto, Eisner, or Hardt. One course.

331S. **Introduction to Italian Civilization. CCI, CZ, FL** The institutions and culture of Italy throughout the centuries. Instructor: Dainotto, Fellin, Finucci, or Hardt. One course.


335. **Major Italian Authors. ALP, CCI, CZ, FL** Textual studies of the most important authors of the Italian literary tradition. Authors may vary. At times the course devoted to single author: Dante, Boccaccio, Pirandello; or, two or three authors studies together in the context of the culture of their time or of their influence on subsequent centuries or authors: Petrarch and Petrarchist phenomenon of the sixteenth century, Morante and the historical novel, Machiavelli and Vico. Not open to students who have taken this course as Italian 165S. Instructor: Finucci and staff. One course.

337. **Italian Short Fiction. ALP, CCI, FL** Novellas and short stories drawn from different periods of Italian literature. Instructors: Dainotto, Eisner, Hardt, or Finucci. One course.
340A. Aspects of Italian Literature. ALP, CCI Concentration on single authors, periods, genres, regions, or themes. (Taught in Italy.) Instructor: Staff. One course. C-L: International Comparative Studies

350. History of the Italian Language. CCI, CZ, FL, SS Origins and evolution of the Italian language from Latin to contemporary varieties. Diachronic linguistic analysis set in the political, social, and ideological contexts that influenced the development of Italy's national language. Analysis of texts that reflect changes in language usage and attitudes toward language. Instructor: Fellin. One course.

351. Italian Visions of America: From Columbus to September 11. ALP, CCI, FL Introduction to Italian works, ranging from poetry to music, from philosophy to movies, that have shaped the image and contours of what today is known as "America." Instructor: Dainotto. One course.

356A. Topics in Italian Literature and Culture. ALP, FL Topics to be announced. Offered to students enrolled in Duke approved courses in Italy. Instructor: Staff. One course.

380. Italian Cinema. ALP, CCI Introduction course to Italian cinema including silent films, Neorealism, fascist productions, Commedia all'italiana and experimentalism. Reading and discussions in English. Instructor: Dainotto and staff. One course. C-L: Literature 215, Arts of the Moving Image 254, Visual and Media Studies 308, Theater Studies 276


381. Renaissance Cultures. ALP, CCI, CZ One course. C-L: see Medieval and Renaissance Studies 152; also C-L: History 116

381P. Aspects of Renaissance Culture--Preceptorial. A preceptorial in Italian, requiring concurrent enrollment in Italian 381, Medieval Renaissance Studies 152, History 255, or Art History 257. Further information available from instructor required. Instructor: Finucci and staff.

382. Italian Women Writers. ALP, EI Ethical, social, and political issues raised in representative works by women of the medieval and early modern periods. Topics include: marginalization of women writers in the literary canon, critical perceptions and self-perception of women authors, and beliefs about women in both the social and cultural space. Instructor: Finucci. One course. C-L: Medieval and Renaissance Studies 344, Women's Studies 282

382P. Italian Women Writers: Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 382. Further information available from instructor. Instructor: Dainotto, Finucci, or Hardt.

383. Cities and City Life in Italy. ALP, CCI, CZ Aspects of social, literary, and cultural history of the Italian cities Venice, Florence, Rome, or Milan, as anchors of larger geographical areas, cities in a specific historical period, or famed artistic centers. Taught in English. Not open to students who have previously taken this course as Italian 128. Instructor: Finucci and staff. One course. C-L: History 237

383P. City and City Life in Italy, Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 383. Further information available from instructor. Instructor: Finucci.

384. European Art 1900-1945. ALP, CCI, CZ One course. C-L: see Art History 280; also C-L: International Comparative Studies, Women's Studies

386. Art in Renaissance Italy. ALP, CCI, CZ One course. C-L: see Art History 255; also C-L: Medieval and Renaissance Studies 225

390. Topics in Italian Civilization. CCI, CZ A cross-cultural study of Italy through history, culture, people, and institutions. Topics may vary each semester. Instructor: Staff. One course. C-L: International Comparative Studies

390P. Topics in Italian Civilization: Preceptorial. Preceptorial attached to Italian 390. Please see instructor for more information. Instructor: Staff.
390SA. Topics in Italian Studies. ALP, CCI, CZ A cross-cultural study of Italy through history, culture, people, and institutions. Topics may vary each semester. For Study Abroad and Duke Intense Global students only. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

394. Research Independent Study. R See Italian 393. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

481. Dante's Divine Comedy: Hell, Purgatory and Paradise. ALP, CCI, CZ, EI A voyage through the three otherworldly places of Dante's philosophical poem (Hell, Purgatory, Paradise) whose transformation of human actions into an ordered ethical system continues to captivate readers. Instructor: Eisner. One course. C-L: Medieval and Renaissance Studies 450, Religion 262, History 253, Literature 245, International Comparative Studies


484S. Italians Abroad, Foreigners in Italy: Seeing and Being Seen. ALP, CCI, CZ Focus on issues of identity, nationality, race, and origin, narratives of discovery, the Italian "Orient," colonial and post-colonial experiences, ethnicity and cultural assimilation in the early modern period. Taught in English. Instructor: Finucci. One course. C-L: Medieval and Renaissance Studies 470S, International Comparative Studies

484SP. Italians Abroad, Foreigners in Italy: Seeing and Being Seen -- Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 484S. Further information available from instructor. Instructor: Finucci.

485S. The Italian Theater. ALP, CCI Introduction to the Italian theatrical tradition. Content varies; the course may be taught by topic, it may concentrate on a specific period, or it may focus on a major author. Taught in English. Instructor: Dainotto or Finucci. One course. C-L: Theater Studies 228S

485SP. The Italian Theatre -- Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 485S. Further information available from instructor. Instructor: Dainotto, Finucci.

487S. Italian Identities Between Europe and the Mediterranean. CCI, CZ The question of Italian identity from the perspective of the cultural divide between north and south. Northern Italy's attraction towards a technologically progressive Europe, and Southern Italy's yearning for the traditionally slower pace of Mediterranean civilization. Study of a nation which does not possess a univocal vision of itself. Taught in English. Instructor: Dainotto. One course.

487SP. Italian Identities Between Europe and the Mediterranean--Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 487S. Further information available from instructor. Instructor: Dainotto.
490A. **Topics in Italian Literature and Culture Abroad.** Topics to be announced. Offered to students enrolled in Duke Study Abroad in Italy. Instructor: Staff. One course.

490S. **Advanced Topics in Italian Literature and Culture.** ALP, CCI Topics may include: the Enlightenment, romanticism, modernism, avant-garde. Taught in English. Instructor: Dainotto, Eisner, Finucci, or Hardt. One course.

490SP. **Topics in Modern Literature and Culture, Preceptorial.** A preceptorial, in Italian, requiring concurrent enrollment in Italian 490S. Further information available from instructor. Instructor: Eisner, Dainotto, Finucci, or Hardt.

493. **Research Independent Study.** R See Italian 393. Open only to qualified seniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

494. **Research Independent Study.** R See Italian 393. Open only to qualified seniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

495. **Honors Thesis.** R Preparation and writing of research paper for "departmental distinction." Consent of both the instructor and the director of undergraduate studies required. See section on honors in *Bulletin.* Instructor: Staff. One course.

581S. **Italian Linguistics.** ALP, CCI, SS An interdisciplinary study of selected topics, such as history of linguistic theories and language ideologies. Language state formation and citizenship in Italy. Language and power, language and identity. Taught in English. Instructor: Fellin. One course.

581SP. **Italian Linguistics: Preceptorial.** A preceptorial, in Italian, requiring concurrent enrollment in Italian 581S. Further information available from instructor: Instructor: Fellin.

583S. **Dante Studies.** ALP, CCI, CZ Focus on a particular aspect of Dante's work. Taught in English. Instructor: Eisner. One course. C-L: Medieval and Renaissance Studies 615S

583SP. **Dante Studies: Preceptorial.** A preceptorial, in Italian, requiring concurrent enrollment in Italian 583S. Further information available from instructor. Instructor: Eisner.

584S. **Topics in Renaissance Studies.** ALP, CCI, CZ Focus on a particular aspect of the Italian or European Renaissance. Taught in English. Instructor: Finucci. One course. C-L: Medieval and Renaissance Studies 640S, Art History 590S-2

584SP. **Renaissance Studies: Preceptorial.** A preceptorial, in Italian, requiring concurrent enrollment in Italian 584S. Further information available from instructor. Instructor: Finucci.

585S. **Topics in Sexuality and Gender Studies.** ALP, CCI The study of identity and difference and the representation of bodies, genders, and desires through developments in medicine and anatomy. May include different historical periods. Readings from public to private documents, literary texts, playscripts, medical treatises, and pamphlets. Taught in English. Instructor: Finucci and staff. 3 units. One course. C-L: Women's Studies 519S

585SP. **Topics in Sexuality and Gender Studies: Preceptorial.** A preceptorial, in Italian, requiring concurrent enrollment in Italian 585S. Further information available from instructor. Instructor: Finucci and staff.

586S. **Literary Guide to Italy.** ALP, CCI, CZ A journey of Italy through literary, cinematic, and musical texts through Italy's sights and customs, as well as the place of Italy, both the real and imagined, in the aesthetics of the Grand Tour. Taught in English. Instructor: Dainotto. One course. C-L: Literature 542S, German 586S, Arts of the Moving Image 640S

586SP. **Literary Guide to Italy: Preceptorial.** A preceptorial, in Italian, requiring concurrent enrollment in Italian 586S. Further information available from instructor. Instructor: Dainotto.

587S. **Cinema and Literature in Italy.** ALP, CCI A study of the relation between literature and film in Italy. Topics include: cinematic versions of novels, influence of literature and literary figures on the construction of an Italian cinematic imagination, effects of cinema on literature, women's fiction and the woman's picture,
neorealism. Taught in English. Not open to students who have taken this course as Italian 170S. Instructor: Dainotto, Finucci, or Hardt. One course. C-L: Arts of the Moving Image

587SP. Cinema and Literature in Italy: Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 587S. Further information available from instructor. Instructor: Dainotto, Finucci, or Hardt.

588S. Antonio Gramsci and the Marxist Legacy. CCI, CZ, SS Gramsci’s reinterpretation of Marxism in the context of fascist Italy. The uses of Gramsci’s key concepts--subaltern, hegemony, dominance, popular culture, Americanism, Southern question--in other cultural/historical contexts, such as Indian subaltern historiography, British cultural studies or American literary studies. Taught in English. Instructor: Dainotto. One course. C-L: Literature 572S

588SP. Antonio Gramsci: Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 588S. Further information available from instructor. Instructor: Dainotto.

590S. Topics in Italian Studies. CCI, CZ Specific aspects of Italian history, civilization, culture, and institutions. Topics may vary. Taught in English. Instructor: Dainotto, Eisner, Finucci, Hardt. One course.

590SP. Topics in Italian Studies -- Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 590S. Further information available from instructor. Instructor: Dainotto, Eisner, Finucci, Hardt.

PORTUGUESE (PORTUGUE)

101. Elementary Portuguese I. FL Introduces the basic elements of the language and includes an exposure to some aspects of Portuguese-speaking cultures. Aural comprehension, speaking, reading, and writing skills receive equal attention. Conducted in Portuguese, using a communicative approach. Five class meetings a week. Instructors: Silva or staff. One course.

102. Elementary Portuguese II. FL Builds on the elements of language acquired in Elementary Portuguese 101; enrollment in Portuguese 102 presupposes acquisition of the contents covered in Portuguese 101. Speaking, reading, and writing skills emphasized; exposure to some aspects of Portuguese-speaking cultures an important component. Conducted entirely in Portuguese, using a communicative approach. Five class meetings a week. Prerequisite: Portuguese 101 or consent of instructor. Instructors: Damasceno and staff. One course.

112. Portuguese as a Second Romance Language. FL Designed for undergraduate and graduate students who are fluent, or native speakers, in another Romance language. Prepares students to enter intermediate sequence Portuguese courses at Duke. Most grammar and textbook work is done outside of class, freeing class time for more communicative activities. Conversation sessions provide intensive review of grammar focused through discussion on issues raised in film, newspapers, readings, music. Meets five times a week. Instructor: Silva or staff. One course.

203. Intermediate Portuguese. CZ, FL Intensive language review of reading, writing, and oral practice, with increased attention to grammatical variety and accuracy. Cultural component emphasized through short readings, videos, music. Prerequisite: successful completion of Portuguese 102, 111, or consent of instructor. Instructor: Silva or staff. One course.

204. Advanced Intermediate Portuguese. CZ, FL An advanced grammar review complemented by oral practice, composition, videos, and selected literary readings. Guided essay writing on topics related to the readings and videos. Second part of an intermediate sequence; suggested as preparation for 300-level courses. Prerequisites: Portuguese 203 or consent of instructor. Instructor: Damasceno or Staff. One course.

260. Afro-Brazilian Culture and History. CCI, CZ, R One course. C-L: see History 327; also C-L: African and African American Studies 209, Latin American Studies

301S. Advanced Colloquial Portuguese. CCI, FL, W Advanced conversation and composition through the study of colloquial Portuguese as a catalyst of popular culture; extensive comparisons of popular sayings, expressions, and proverbs; emphasis on oral communication. Contemporary short texts, "telenovelas," video,
music, and Internet sources. Highlights differences between Portuguese as spoken in Portugal and Brazilian Portuguese (syntax, vocabulary, spelling); transmits a sense of African, Azorian, and Asian Portuguese, and United States Portuguese communities. Prerequisites: Portuguese 203 or consent of instructor. Instructor: Damasceno or staff. One course.

321S. First Year Seminar in Portuguese. Topics vary each semester offered. Prior to the drop/add period, this course is restricted to first-year students who have not fulfilled their seminar requirement. Instructor: Staff. One course.

332S. Research Seminar in Citizenship and Culture. CZ, FL, R, W Interdisciplinary research seminar that allows students to practice intermediate to advanced language skills and develop individual research projects on contemporary issues in the Portuguese-speaking world as they are perceived and discussed from within these countries. Focus on the changing nature/rights of citizenship in Lusophone world and/or relationship of Portuguese speaking country to global issues of citizenship. Research paper required; research resources concentrate on journalistic and other media sources, including the Internet. Prerequisite: Portuguese 204 or consent of instructor. Instructor: Damasceno. One course. C-L: International Comparative Studies 252S, Latin American Studies

334S. Introduction to Brazilian Literature. ALP, CCI, FL, W Major writers and movements of Brazilian literature from the period of discovery to present, using short texts, novels, plays, short stories. Includes early letters of discovery, Machado de Assis, Mario de Andrade, Clarice Lispector. Instructor: Damasceno or Staff. One course. C-L: Latin American Studies

340A. Conversational Brazilian Portuguese Abroad. ALP, CCI, CZ, FL, W Grammar review based on weekly essays and conversational units directly related to experiences and excursions of Duke in Brazil. Prerequisites: Portuguese 111 or equivalent, or consent of director. Instructor: Damasceno and staff. One course.

360S. Geographies of the Erotic: Brazilian Literature in Translation. ALP, CCI, CZ, EI Whether exoticized or debated as a problematic portrayal of national identity within Brazilian culture, the 'Brazilian body' (not just female), becomes a focal point for discussing questions of race, ethnicity, gender, class-poverty and regional identities. Beginning with documents of 'discovery,' this course maps Brazilian literature in context of these issues, questioning what is erotic and from what viewpoint. Ethical implications of the eroticized image are a central concern of seminar readings and discussions. Taught in English. Instructor: Damasceno. One course. C-L: Latin American Studies 360S, Women's Studies

361S. Portugal, Portuguese-Speaking Africa, and Brazil: Old Problems, New Challenges. CCI, CZ Readings from multidisciplinary sources and films emphasizing questions/issues regarding the Portugal-Africa-Brazil triangle. The history and geography of Lusophone cultures from the inception of the Portuguese state to the present. Promotes a critical vision of the Portuguese-speaking nations' relationships as a common language group with other non-Portuguese-speaking nations more closely connected to the individual nations of the Lusophone world. Taught in English. Instructor: Damasceno or staff. One course. C-L: International Comparative Studies 225S

393. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

394. Research Independent Study. R See Portuguese 393. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

410S. Cidanania, Cultura, e Participacao/Citizenship, Culture, and Participation. ALP, CCI, CZ, EI, R Taught in Portuguese, with texts in Portuguese and English, the course integrates visiting lectures and readings with experience and on-site research into popular culture, cultural activism and social movements. Begins with readings and discussion of concepts and history of citizenship and cultural activism in Brazil, then centers on
specific issues or movements. (ex: social entrepreneurship and peripheral cultures; AIDS education; performing arts and favela activism). One course. C-L: African and African American Studies 425S

490. Performing Brazil: Issues of Performative Cultures, Preceptorial. ALP, CCI Same as 144S, except taught in English, with a preceptorial in Portuguese available for students seeking credit towards the Spanish major. Special topics course involving debatesSame as Portuguese 490S-1, except taught in English, with a preceptorial in Portuguese available for students seeking credit towards the Spanish major. Special topics course involving debates regarding the concept of Brazil as a performative culture; issues of race, gender, and sexual identity as portrayed in cinema, theater, dance, and television; issues of regional and class identity in the media. Topics vary according to term. Instructor: Damasceno. One course.

490S. Performing Brazil: Issues of Performative Cultures. ALP, CCI Seminar version of Portuguese 490. One course. C-L: International Comparative Studies 458S

490S-1. Performing Brazil: Issues of Performative Cultures. ALP, CCI, FL, W Special topics course involving debates regarding the concept of Brazil as a performative culture: issues of race, gender, and sexual identity as portrayed in cinema, theater, dance, and television; issues of regional and class identity in the media. Topics vary according to term. Instructor: Damasceno. One course.

490SP. Performing Brazil: Issues of Performative Cultures, Preceptorial. A preceptorial requiring concurrent enrollment in Portuguese 490S. Additional information available from instructor. Instructor: Damasceno.

493. Research Independent Study. R See Portuguese 393. Open only to qualified seniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

494. Research Independent Study. R See Portuguese 393. Open only to qualified seniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

512S. Transatlantic Cultures: Narratives of Discovery, Empire, Decolonization, and Europeanization. FL, R Explores, through literature, film, and theoretical readings, basic themes of Portuguese culture. Focuses on narratives of discovery, empire, decolonization, the admixture of cultures, and concerns of contemporary Portugal within the European Union. Questions of Portuguese identity during the epoch of discovery and expansion; the Portuguese presence in Asia, Africa, and Brazil; the role of postcolonial Portugal and Lusophone culture within the European context. Taught in Portuguese, translations of readings available. Prerequisite: 300-level Portuguese course or consent of instructor. Instructors: Damasceno and staff. One course.

590S. Topics in Lusophone Literature and Culture. ALP, CCI, R Exploration of topics of cultural formation in the Portuguese-speaking world that emphasize autochthonous cultural theory. Examples include: Brazilian popular culture, Literatures of Resistance, Lusophone Africa and Independence, Portugal Post-Salazar. A graduate-level course open to juniors and seniors. Level of Portuguese required varies with semester topic; students should consult instructor. Prerequisite: 300-level Portuguese course or consent of instructor. Instructors: Damasceno and staff. One course.

**QUECHUA (QUECHUA)**

113A. Beginning Quechua. FL Introduction through immersion to the history and structure of Quechua. (Taught in the Duke in the Andes Program only.) Instructor: Staff. One course.

**SPANISH (SPANISH)**

101. Elementary Spanish 1. FL Introduces the basic elements of the language and includes exposure to aspects of Spanish-speaking cultures. Equal attention to aural comprehension, speaking, reading, and writing skills conducted entirely in Spanish using a task-based approach. Five class meetings a week. Not open for credit to students who have had three or more years of Spanish in high school. Prerequisite: No previous college study of Spanish, or no more than three years of high school Spanish, or appropriate language placement score. Instructor: staff. One course.
102. Elementary Spanish 2. FL This course builds on the elements of the language acquired in Elementary Spanish 1; enrollment in Spanish 102 presupposes acquisition of the contents covered in Spanish 101. Speaking, reading, and writing skills emphasized; exposure to Spanish-speaking cultures. Classes conducted entirely in Spanish, using a task-based approach. Five class meetings a week. Prerequisite: Spanish 101 or appropriate placement test score. Instructors: Paredes and staff. One course.

111. Intensive Elementary Spanish. FL Covers the basic elementary language curriculum (Spanish 101 and 102) in one semester. Aural comprehension, speaking, reading and writing skills. Exposure to Spanish-speaking cultures. Taught in Spanish, using a task-based approach. Not open to students who have had one year (or more) of Spanish in high school. Eight class meetings a week. Instructor: staff. Two courses.

140A. Duke in Mexico: Intensive Institute. FL Covers the basic elementary Spanish language curriculum (Spanish 101 and 102) in one summer session in Mexico. Develops aural comprehension, speaking, reading and writing skills; exposure to aspects of Spanish-speaking cultures. Taught in Spanish, using a task-based approach. Six hours per day of classroom instructions (M-F) and required extracurricular activities. Not open to students with more than one year of high school Spanish. Instructor: Staff. Two courses.

160S. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 101S; also C-L: Literature 143S, African and African American Studies 104S

190FS. Focus Topics in Spanish and Latin American Literature and Culture. ALP Topics on single authors, genres, movements, or themes. Taught in English. Topics course. Open only to students in the Focus program. Instructor: Paredes, staff. One course.

203. Intermediate Spanish. CZ, FL This course builds on the elements of the language acquired in the elementary sequence; enrollment in this course presupposes acquisition of Spanish 101 and 102 contents. Continued development of the four language skills: listening, speaking, reading and writing. Expanding range and complexity of grammar usage and vocabulary. Exposure to Spanish-speaking cultures. Prerequisite: Spanish 102 or 111, or appropriate placement test score. Instructors: Paredes and staff. One course.

204. Advanced Intermediate Spanish. CZ, FL This course builds on the elements of the language acquired in Spanish 101 through 203. Further development of the four language skills: listening, speaking, reading and writing. Expanding range and sophistication of grammar usage and vocabulary. Exposure to Spanish-speaking cultures. Work with comprehension and production of texts of greater extension and complexity. Prepares students for 300-level Spanish courses. Prerequisite: Spanish 203, or appropriate placement test score. Instructors: Paredes and staff. One course.

212. Intensive Intermediate Spanish. CZ, FL Covers the intermediate Spanish language curriculum (Spanish 203 and 204) in one semester. Builds on the elements of the language acquired in the elementary sequence; enrollment in this course presupposes acquisition of Spanish 1 and 2 contents. Further development of the four language skills: listening, speaking, reading, and writing. Expanding range and sophistication of grammar usage and vocabulary. Exposure to Spanish-speaking cultures. Increasing ability to structure ideas in speaking and writing. Work with comprehension and production of texts of greater extension. Prepares students for 300-level Spanish courses. Eight class meetings a week. Instructor: Paredes and Staff. Two courses.

240A. Duke in Mexico: Intensive Intermediate Institute. CZ, FL Covers the intermediate Spanish language curriculum (Spanish 203 and 204) in one summer session in Mexico. Builds on elements of the language acquired in the elementary sequence in Spanish 101 and 102. Further development of the four language skills: listening, speaking, reading, and writing. Expanding range and sophistication of grammar usage and vocabulary. Exposure to Spanish-speaking cultures. Increasing ability to structure ideas in speaking and writing. Work with comprehension and production of texts of greater extension. Prepares students for 300-level Spanish courses. Six hours a day of classroom instruction (M-F); required extracurricular activities. Prerequisite: Spanish 102 or 111. Instructor: Parades and staff. Two courses.
301. Advanced Spanish Writing. CCI, FL, W Development of academic writing skills in Spanish with a focus on techniques for organizing information, editing, revising, and increasing level of sophistication and accuracy of vocabulary and grammar. Substantial work on the development of writing strategies through several short papers and a final long paper. This course is strongly recommended before enrollment in Spanish 331S and higher courses. Instructors: Paredes and staff. One course.

302. Advanced Spanish Grammar. CCI, FL Intended to foster students' reflection about Spanish grammar and to consolidate students' knowledge of the system of rules underlying the Spanish languages. Special attention given to grammar in oral and written communication. Not open to students who have previously taken both Spanish 301 and 303. Prerequisite: Spanish 204 or appropriate placement test score. Instructors: Paredes and staff. One course.

303. Introduction to Cultural Studies. CCI, FL Introduction to ideologies and political debates that shape the cultural configuration of Hispanic communities both within and outside the US Borders. The main goal is to explore and examine critically how particular discourses (within different genres and media) relate to politics, art, culture, and society. Articles, literary texts, films, web sites, etc. will serve as resources. As students engage with cultural studies, it is expected that they achieve discursive complexity and linguistic accuracy through vocabulary development, group and individual presentations, video recordings, writing projects and debates. Pre-requisite: Spanish 204 or equivalent. Instructors: Paredes and staff. One course. C-L: Latino/a Studies in the Global South

304. Fundamentals of Spanish Linguistics. FL, SS A comprehensive overview of the field of linguistics as it relates to Spanish. Starting from the question What does it mean to know Spanish?, the course reviews the areas of phonology, morphology, syntax, pragmatics, semantics, applied linguistics, and sociolinguistics. The main goal is to develop students' skills in analyzing data, forming and testing hypotheses, and arguing for the correctness of solutions. Individual topics investigated by students. Prerequisite: Spanish 301 or 302 or consent of instructor. Instructor: Staff. One course. C-L: Linguistics 303

305. Spanish for Heritage Speakers. CCI, CZ, FL, W Designed for students who are heritage speakers, educated almost exclusively in English, with little exposure to Spanish in an academic setting. Linguistic work contextualized through three major fields: arts (music, literature, cinema, painting, sculpting); society (Latinos & language in the US, traditions, immigration related topics); and mass media (television, radio, newspapers, new technologies). Instructor: Munne and staff. One course. C-L: Latino/a Studies in the Global South 305

306. Health, Culture, and the Latino Community. CCI, FL Issues associated with access to the health care industry for growing Latino/a population in the US. Topics: cultural competency issues, medical practices, lexical knowledge related to the field. Develop research proposal informed by required 20 hours of service work with local community partners. Assessment on knowledge of content, oral and written Spanish, and participation in service. Recommended students take 300-level Spanish course prior to enrolling. Pre-requisite: Spanish 204 or equivalent. Instructor: Paredes and Staff. One course. C-L: Latino/a Studies in the Global South 306

307S. Issues of Education and Immigration. CCI, FL Community-based interaction with Durham Public Schools. Topics: Latino/a identity, access to education for immigrants, academic performance, assimilation, general pressures of family and peers, bilingualism, configurations of ethno-racial consciousness. Required 20 hours outside of class with assigned community partners. Assessment on knowledge of content, oral and written Spanish, and participation in service. Recommended students take 300-level Spanish course prior to enrolling. Pre-requisite: Spanish 204 or equivalent. Instructor: Paredes and Staff. One course. C-L: Education 307S, Latino/a Studies in the Global South 307S

308S. Latino/a Voices in Duke, Durham, and Beyond. CCI, CZ, FL, W Formation of Latino/a identity(ies) and community voices through the lens of cultural, political, and social issues at local and national level. Topics: Minority voices, power and class, linguistic and artistic expression. Required weekly service work with GANO and the Mariposa Stories Project. Assessment on knowledge of content, oral and written Spanish,
service. Recommended students take 300-level Spanish course prior to enrolling. Instructor: Paredes and Staff. One course. C-L: Latino/a Studies in the Global South 308S

309S. The Making of Barcelona: Introduction to Catalan Language and Culture. CCI, CZ, FL The historical making of Barcelona as expressed in its architecture (the Gothic, the Modernista Movement, Gaudi, the new architects), the visual arts (Miro, Picasso), and other cultural forms; an introduction to the culture of Catalonia as well as to the Catalan language. Taught in Spanish, with exposure to Catalan language. Prerequisite: Spanish 204 or equivalent required. Instructor: Staff. One course.

321S. First-Year Seminar in Spanish. FL Seminar for first-year undergraduates with the desire and ability to take courses in literature, history, culture, art, cinema, or drama in Spanish at the 300-level. Topics vary each semester offered. For students thinking about majoring or minoring in the language, counts towards both. Prerequisite: SAT II score 660 or above, AP Language score of 5, or Literature score of 4 or 5. Heritage speakers or students who did high school work in Spanish encouraged to enroll after consulting with instructor. Instructor: Staff. One course.

324S. Spanish-American Short Fiction. ALP, CCI, FL The development of the novella and short story from the nineteenth century to the twentieth century in Spanish America: Marti, Dario, Quiroga, Borges, Cortazar, Garcia Marquez, Allende, Ferre, Carpentier, and others. Not open to students who have taken Spanish 117AS. Instructor: Staff. One course. C-L: Latin American Studies

327S. Spanish for Freshmen and Sophomores. ALP, CCI, FL Selected readings on topics concerning the different national literatures of Spain and Latin America. Open only to freshman and sophomores. Prerequisite: Spanish 204 or placement/achievement score of 630 or above. Instructor: Staff. One course.

331S. Introduction to Literature, Film, and Popular Culture. ALP, FL, W Introduction to a wide variety of texts from both Spain and Latin America, with emphasis on how they can mean different things to different readers. Course develops student skills in reading, writing, and speaking, and emphasizes personal approaches to readings. Prerequisite: Spanish 204, or appropriate AP, SAT II, or placement test score. Strongly recommended students take Spanish 301 before enrolling in this course. Students who have taken more than one course above 331S may not take this course. Instructor: Sieburth and staff. One course.

332. Introduction to Spanish Literature I. ALP, CCI, FL Major writers of the Spanish literary tradition and the historical contexts from which they emerged: Middle Ages through the seventeenth century. Poetry, fiction, theater and essay and historical readings and film. Includes attention to Judaic and Islamic civilizations and expression in medieval Spain. Prerequisite: Spanish 301, 331S, or AP Spanish Literature score of 5. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 314

333. Introduction to Spanish Literature II. ALP, CCI, FL A survey of major writers and movements of the Spanish literary tradition in the eighteenth, nineteenth, and twentieth centuries. Prerequisite: Spanish 301, 331S, or AP Spanish Literature score of 5. Instructor: Staff. One course.

333A. Literature and the Arts in Modern Spain. ALP, CZ, FL (Taught in Spain.) Instructor: Staff. One course. C-L: International Comparative Studies

334. Introduction to Spanish-American Literature. ALP, CCI, FL A survey of major writers and movements from the periods of discovery to conquest, colonial rule, and early independence. Includes works by native Indian, "mestizo", and women writers. Prerequisite: Spanish 301, 331S, or AP Spanish Literature score of 5. Instructor: Staff. One course. C-L: Latin American Studies

335. Introduction to Spanish-American Literature. ALP, CCI, FL A survey from Independence to the Contemporary period. Prerequisite: Spanish 301, 331S, or AP Spanish Language score of 5 or AP Spanish Literature score of 4 or 5. Instructor: Staff. One course. C-L: International Comparative Studies, Latin American Studies

340A. Communication Skills. CCI, FL Develops communication skills through oral expression. Exercises include role playing of every day situations, discussing newspaper articles and literary texts, having debates on controversial current issues, films etc. Grammatical correction emphasized as well as appropriate cultural
levels of expression and colloquial phrases. Written language objectives; four compositions during the semester. (Taught in Spain and Ecuador, in Duke-in-Madrid and Duke-in-the Andes study abroad programs.)

Instructor: Staff. One course.

360. Art in Spain During the Golden Age. ALP One course. C-L: see Art History 256

361. Latin-American Literature in Translation. ALP, CCI Fictional and poetic works of the last thirty years that have made an impact on world literature. Critical reflection on political and ethical issues. Taught in English. Instructor: Dorfman. One course. C-L: International Comparative Studies 335, Literature 376, Latin American Studies

361D. Latin American Literature in Translation. ALP, CCI One course. C-L: see Literature 375D; also C-L: International Comparative Studies 339D

363D. The Idea of Latin America. CCI, CZ The idea of Latin America, as invented and created by European imperial powers and maintained by United States emerging imperialism at the turn of the twentieth century, in complicity with local Creole and Mestizo elites. Perspective on the geo- and body- politics of knowledge being enacted by radical intellectuals, indigenous and Afro-social movements, and the Social Forum of the Americas, to open up a new understanding of the global order and global power relations today. Taught in English. Instructor: Mignolo. One course. C-L: Literature 372D, Latin American Studies

364. The Art and Cultural History of Flamenco. ALP, CCI, CZ One course. C-L: see Dance 365L

365S. What's Lost in Translation? Latin American Theater in English. ALP, CCI, CZ Dramatic texts and theatrical traditions of Latin American theatre within their historical context. Role of theater as a critique and force for social transformation, challenges involved in translating highly polemical works from one culture to another. Taught in English. Instructor: Staff. One course. C-L: Theater Studies 327S, International Comparative Studies 337S

380S. Advanced Colloquial Spanish. CCI, FL Colloquial Spanish as a catalyst of popular culture; extensive comparisons of English and Spanish popular sayings and proverbs; emphasis on oral communication. Prerequisite: two Spanish courses at the 300 level. Instructor: Staff. One course.

390-3. Special Topics in Latin American Studies. A problem-oriented course integrating approaches from different disciplines. Topics and disciplines vary from year to year. For juniors and seniors. Required capstone course for students seeking the certificate in Latin American Studies. Instructor: Staff. One course.

390-4. Topics in Hispanic Civilization. CCI, CZ, FL A humanistic, cross-cultural study of Spain or Spanish America through history, culture, people, and institutions. Topics may vary. Instructor: Staff. One course. C-L: International Comparative Studies


390A-1. Advanced Spanish Language Abroad. CCI, FL Topics may vary. Instructor: Staff. One course.

390S-5. Topics in Spanish Linguistics. CCI, FL Topics vary each semester. Specific themes related to social linguistics. Involves students' collecting and analyzing linguistic data, framing, and testing hypotheses. Instructor: Staff. One course. C-L: Linguistics 390S-01

393. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

394. Research Independent Study. R See Spanish 393. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

410. Spanish Literature of the Renaissance and the Baroque. ALP, CCI, FL Selected works of sixteenth and seventeenth centuries in Spain with attention to their reflection of social, religious and political currents of the age, including: Pan-European cultural influences in the Renaissance, the effects of the New World
encounter, the construction of identity through repression of Judaic and Islamic traditions, the relationship between tightened religious, social and political controls and the Baroque. Prerequisite: Spanish 332, 333, 334 or 335. Instructor: Greer or staff. One course. C-L: Medieval and Renaissance Studies 458, Information Science and Information Studies 251

411. Golden Age Literature: Cervantes. ALP, CCI, FL. Includes reading either selected works by Cervantes (dramas, novellas, and part of Don Quixote) or the Quixote in its entirety. Attention to the Roman and/or Arab conquests of Spain, Spanish relations with Algeria, England, Italy, and the Americas, the obsession with "limpieza de sangre" and the fate of Spain's "morisco" population. Prerequisite: Spanish 332, 333, 334 or 335. Instructor: Greer. One course. C-L: Medieval and Renaissance Studies 459

412D. Mayas, Aztecs and Incas: The World According to the Indigenous People of Latin America. CZ, EI, R. The basic philosophical architecture of the three great civilizations of America; Maya, Aztec and Inca civilizations. Links the current indigenous revival in the Andes (Bolivia and Ecuador) and in the South of Mexico and Guatemala with the survival of their historical legacies. Instructor: Mignolo. One course. C-L: International Comparative Studies 460D, Cultural Anthropology 367D, Latino/a Studies in the Global South 412D, History 412D


430. Literature of Contemporary Spain. ALP, CCI, FL. A cultural critique of contemporary Spain (1936 to present) through different literary genres (novel, theater, poetry) with emphasis on gender, class, and historical nationalities. Includes Catalan, Galician, and Basque authors in Spanish translation. Prerequisite: Spanish 332, 333, 334, or 335. Instructor: Staff. One course. C-L: International Comparative Studies, Marxism and Society

431S. The Spanish Civil War: History, Literature, and Popular Culture. ALP, CZ, EI, FL, R. The Spanish Civil War of 1936-39 through literary and historical readings, art, music, and film. Special attention given to values held by supporters of each side, and how they put them into practice during and after the war. Consideration of international volunteers who fought in Spain for their own deeply-held values. Research paper and presentation required. Taught in Spanish. Not open to students who have previously taken this course as Spanish 138S. Instructor: Sieburth. One course. C-L: History 273S

432S. Hispanic Literature and Popular Culture. ALP, CCI, FL. Works of Spanish and Latin American fiction that parody or rewrite popular culture genres such as serial novels, detective stories, or Hollywood films. Authors include Cervantes, Galdos, Borges, Marsi, and Puig. Taught in Spanish. Prerequisite: Spanish 332, 333, 334, or 335. Instructor: Sieburth. One course. C-L: International Comparative Studies, Latin American Studies


434S. Nineteenth- and Twentieth-Century Spanish Literature. ALP, CCI, FL. Literary, cultural critique on a specific genre or theme to be announced. Emphasis on issues of gender, class, psychoanalysis, and/or popular culture. Prerequisite: Spanish 332, 333, 334, or 335. Instructor: Sieburth. One course.

435S. Mexicana Throught from North and South: Writing, Art, Film. ALP, CCI, FL. Fiction, art, and theory by Mexican women from both sides of the U.S./Mexico border, 1950 to the present. Considers affective and political relationships revealed in narratives of belonging and exclusion, and new thinking about gender, race, and history. Poses questions about nations and nationalism, perceptions and performances of the body,
and the social and political promise of expressive culture. Emphasis on visual culture including photography, performance, posters, new media, video and film. Instructor: Gabara. One course. C-L: Visual and Media Studies 316S


437S. Spanish Avant-Gardes/Kino-Texts. ALP, CCI, EI, FL Examines ways in which Spanish avant-garde groups participated in trans-national experiments in film, writing, and related creative expressions in 1920s and 1930s economic and political crises across the world. Critical viewings and readings of works by select number of authors from the period. Focuses specifically on visual and textual culture, discussions and assignments emphasizing gender, class, and race representations and appropriations in relation to international geopolitical scenarios. Instructor: Adrian. One course. C-L: Literature 272S


440AS. Literature and the Performing Arts II. ALP, CCI, FL Selected literary works of the nineteenth and twentieth centuries that have been rendered in film or are presently on stage in Madrid. Attendance at performance of the films or plays. Instructor: Staff. One course.


481D. Women Writers of the Renaissance: Spain and England. ALP, CCI, CZ Readings in the work of major women writers of the Spanish and English Renaissance: Zayas, Wroth, Navarre, and their literary contexts, Cervantes, Boccaccio, Sidney. Course includes in-depth examination of ideals and conflicts of English and Spanish culture, as well as consideration of the intersection in their writing between Christian (Protestant and Catholic) and Muslim civilizations. Instructor: Greer. One course. C-L: English 433, Medieval and Renaissance Studies 475D

490A. Spain: Special Topics Abroad. ALP, CCI, CZ, FL A special topics course on various aspects of Spanish art, cinema, painting, drama, and literature. Topics to be announced. (Taught in Duke-in-Madrid program). Instructor: Staff. One course.

490A-1. Topics in Spanish and/or Latin American Literature Abroad. ALP, FL Transfer credit for literature courses taught in non-Duke programs abroad. Special topics course. Instructor: Staff. One course.

490AS. Duke in Andes: Special Topics. CCI, FL Various aspects of literatures and cultures of the Andes. Specific topics to be announced. Instructor: Staff. One course. C-L: International Comparative Studies, Latin American Studies

490S. Spanish Literature. ALP, CCI, FL Various aspects of the literatures of Spain and Spanish-America with a cross-cultural perspective. Specific topics to be announced. Prerequisite: Spanish 332, 333, 334 or 335. Instructor: Staff. One course.

490S-2. Special Topics in U.S. Latina/o Literatures and Cultural Studies. ALP, CCI Special topics in United States Latina/o literatures and cultural studies. Topics to be announced. Open to juniors and seniors.
Counts towards the Spanish major, but can only be counted once towards the core course requirement; subsequent courses would count as related courses. Counts only once for the minor. Taught in both Spanish and English. Prerequisite: At least one course numbered 110-139 and taught in Spanish (excluding 120's courses taught in English), or consent of instructor. Instructor: Mignolo, Milian, Viego, or staff. One course. 
C-L: Latino/a Studies in the Global South 490S, Latin American Studies

493. Research Independent Study. R See Spanish 393. Open only to qualified seniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

494. Research Independent Study. R See Spanish 393. Open only to qualified seniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

495AS. Honors Seminar. CCI, FL, R Basic training in research methodologies for students preparing to write an honors thesis on a Spanish or Latin American topic. Student presentations weekly on research topics and submission of substantial drafts of honors thesis proposals. (Taught in Madrid.) Consent of instructor required. Prerequisite: Two 300-level Spanish courses. Instructor: Staff. One course.

496. Honors Thesis. R Directed research and writing of honors thesis. Open only to qualified seniors pursuing the Graduation with Distinction track by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.


512S. Topics in Spanish Linguistics. FL, R, SS In-depth analysis of one area of Spanish linguistics. Topics may include Spanish phonology, Spanish syntax, discourse analysis, applied linguistics, or Spanish pragmatics. Small research projects with a hands-on approach required. Instructor: Staff. One course. C-L: Linguistics 512S

530. Emigrants and Immigrants: Spain in the Sixties and Now. ALP, CCI, FL A study of the cultural processes generated by two significant migratory movements in Spain: one in Catalonia in the 1960s and early 1970s, composed mostly of impoverished peasants coming from southern Spain; and the more recent global wave composed of Latin American, African, and Filipino immigrants to the affluent post-industrial areas. The seminar will use literary and cinematic texts, and testimonial narratives. Instructor: Staff. One course. C-L: International Comparative Studies

590S. Seminar in Spanish Literature. ALP, FL Topics to be announced. Instructor: Staff. One course.

THE MAJOR

Majors are offered in French Studies, Italian Studies, Spanish, and Romance Studies, and several different tracks are offered, as described below. The range of courses offered may be taken toward fulfillment of the following general education curriculum requirements: ALP, CZ, SS, CCI, EI, FL, STS, R, W, where indicated in the individual course entries. Majors are constituted of core courses and related courses. Core courses are departmental offerings taught in the language of the major. Related courses may be taken outside the department and not in the language of the major.

French Studies Major Requirements

Students majoring in French will acquire a considerable degree of competence in the written and spoken language as well as knowledge of the literature and culture of France and the French-speaking world. The Department offers a wide array of courses in language, literature, and culture, and strongly encourages interdisciplinary work in French through courses emphasizing the relation between literature, the arts, history, and society. A major in French is an excellent portal to a variety of careers in the humanities, the economic world, government, and science, and to a lifetime of global awareness and cultural reflection. An honors thesis option is available, including the possibility for theses interweaving two fields for students pursuing double or second majors. Students interested in majoring in French should consult the director of undergraduate studies.
The French Studies major requires a total of ten courses. At least eight French (FRENCH) courses must be taken at the 300 level or above. Depending on placement, French 203 and/or French 204 may count towards the requirement; for students entering with 300 level proficiency, all ten French courses will be at the 300 level or above.

Of these advanced-proficiency courses:
- Students may take up to two Romance Studies (ROMST) courses with French-related content or non-departmental courses with French-related content
- Students must take at least two French (FRENCH) courses numbered 400 or above.
- Students must also take at least one 500-600 level French (FRENCH) course** or complete a thesis.***

Italian Studies Major Requirements

The Italian Studies major offers two concentrations: 1) Italian Studies and 2) Italian and European Studies.

Students majoring in Italian develop language skills in their social and cultural contexts. The combination of linguistic and cultural competency is excellent preparation for a variety of professional careers in business, government, the humanities, and science. Double (second) majors are encouraged and supported. Numerous opportunities are available, including programs of study abroad, work study, interdisciplinary programs, and Fulbright. Students interested in majoring in Italian should consult the director of undergraduate studies.

1. Italian Studies: A total of ten courses, at least eight of which must be at the 300 level or above. (Courses below the 300 level are restricted to Italian 213, Italian 203, and Italian 204). Six of the ten courses must be taught in Italian, or have an Italian preceptorial (P) component (taught in Italian) and include three of the four core courses: Italian 303S; Italian 332; Italian 333; Italian 335; and one course at the 500-600 level. The four remaining courses may be taught in English, such as courses in Romance Studies, or cross-listed courses with Italian content offered by other departments or programs such as Art History, Cultural Anthropology, English, Film/Video/Digital Studies, History, International Comparative Area Studies, Literature, Medieval and Renaissance Studies, Music, Philosophy, Political Science, Religion, and Theater Studies. Duke-approved courses taught in Italian in Study Abroad Programs may also count towards this major concentration.

2. Italian and European Studies: An interdisciplinary concentration requiring a total of ten courses, at least eight of which must be at the 300 level or above. (Courses below the 300 level are restricted to Italian 213, Italian 203, and Italian 204). Five of the ten courses must be taught in Italian, or with an Italian preceptorial (P) component (taught in Italian), and include at least two core courses (Italian 303S, 332, 333, 335). Five related courses on any Italian and/or European topic may be taken in or outside the department and not in the language of the major (consult the undergraduate major advisor for approval of related courses). Duke-approved courses taught in Italian in Study Abroad Programs may also count towards this major concentration.

Spanish, Latin American & Latino/a Studies Major Requirements

A total of ten courses at the 300 level and above, at least seven of which must be from departmental offerings. These seven core courses must include any two survey courses (332, 333, 334, 335) and at least

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* For transfer students, consult with the Director of the Language Program for equivalent transfer credits.
** 500-600 level courses will be constructed with the undergraduate experience in mind and students are warmly welcome to take more than one 500-600 level course. Such courses also present an excellent opportunity for undergraduates to work with a graduate student peer cohort.
*** French majors are encouraged to write a senior thesis, and to consider interdisciplinary topics capable of linking French studies to their additional fields of academic interest.
three courses above 400, one of which should be at the 500-600 level. The remaining courses must be on Peninsular, Latin American or Latino-related topics and may be taken either in the department or in other departments. Brazilian or Lusophone literature or culture courses taught in Portuguese at or above the 300 level, offered by the department, may be substituted for some of these remaining courses. Overall, a total of seven courses must be taught in Spanish. Consult the undergraduate major advisor concerning approved related courses.

**Romance Studies Major Requirements**

The Romance Studies major at Duke involves advanced study in two of the department’s language/culture sections in an international and experiential learning mode. This major consists of foreign language study at the major level, departmental FL courses only, within two departmental fields, such as: a) two continental fields, for example peninsular Spanish and Italian; b) two fields encompassing the diversity of cultures and engagement in the “developing” and the “developed” worlds, such as Creole and French; or c) in geographically proximate postcolonial spaces such as lusophone (Portuguese-speaking) and francophone Africa, or Spanish and Portuguese-speaking environments in South America. The course requirements are paired with international/experiential learning requirements.

**Course Requirements**

- 5 major-level departmental FL courses, in each of the two fields of study (see the descriptions of the single-language majors). The entry-level course for credit in the Romance Studies major is the same as the entry level course for the minor in each of the French, Italian, and Spanish fields, i.e.:
  - French 204
  - Italian 203
  - Spanish 301

Students with unusual depth of study in Creole or Portuguese may petition the Romance Studies faculty to unite one of the above sequences of five FL departmental courses with a combination of three courses and a required thesis (involving two semesters of independent study courses) in Creole or Portuguese. The Romance Studies major in French, Italian, or Spanish and Creole or Portuguese therefore requires unusual initiative and experience in the field of either Creole or Portuguese. Petitions to undertake this option must include a 1 page abstract of the project, a bibliography, and the names of three committee members who have consented to serve on the thesis committee.

**International/Experiential Learning Requirements for the Romance Studies major:**

To ensure breadth and depth of learning and linguistic/cultural immersion, any student completing the Romance Studies major must also complete 2 of the following international and/or experiential learning experiences related to their fields of Romance study. Each of these must be approved by the DUS.

- Study abroad (up to 2 programs may be counted
- An appropriate Duke Engage or another Duke service and/or experiential learning program
- Research experience related to the Romance language/culture field in a humanities lab, a fellowship, a research independent study, research assistantship, professional research environment, etc.
- An honor’s thesis uniting the two fields
- A certificate in a related field with content directly related to that of the fields of language/culture study

**Departmental Graduation with Distinction**

Qualified students may apply for Graduation with Distinction. The application deadline is preregistration for the fall semester of the senior year. Students must find an appropriate faculty advisor to oversee the honors project. The thesis may be written in the language best suited to its likely audience, but students pursuing graduate study in a Romance Studies field must write the thesis in the language of the area of study.
Further information may be obtained from the director of undergraduate studies or the assistant to the director.

THE MINOR

Minors are offered in French, Italian, and Spanish Studies.

French Studies

Requirements: The French Studies Minor requires a total of 5 courses from departmental French (FRENCH) offerings, at least four of which are at the 300 level or above. French 204 may count toward this requirement depending on placement.

Italian Studies

Requirements: A total of six courses from departmental Italian offerings, three of which must be taught in Italian or include a preceptorial (P) component, and must include at least one of the four core courses: Italian 303S, 332, 333, 335. Two courses in Italian below the 300 level may be counted (restricted to Italian 203, 204, and 213). Duke-approved courses taught in Italian in Study Abroad Programs may also count towards this minor concentration.

Majors and minors are also encouraged to take advantage of 500-600 level course offerings.

Spanish Studies

Requirements: A total of five courses from departmental Spanish offerings numbered 300 or above. Courses for the minor must include one survey course (332, 333, 334, 335) and at least two courses at the 400 level or above. All five courses must be taught in Spanish (but Spanish 490S-2 may substitute for one of the 5 FL courses).

STUDY ABROAD

Students are strongly urged to study abroad since this is the best way to achieve language proficiency and to acquire knowledge of a country's culture. Courses taken abroad count toward the core and/or related courses as follows:

I. Department-Administered Programs
   A. Duke-in-France. Major: All courses may be counted toward the major. A maximum of three courses per semester may be counted toward the core-course requirement. Minor: A maximum of two courses per semester may be counted.
   B. Duke-in-Madrid. Major: All courses may be counted toward the major. Credit distribution may vary according to students’ needs, with a maximum of three courses counting toward the core course requirement. For students remaining a second semester, two additional courses may be counted as core courses; the rest may be counted as related courses. Minor: A maximum of two courses may be counted.
   C. Duke-in-the-Andes. Major: All courses may be counted toward the major. A maximum of three courses may be counted toward the core-course requirement; others may be counted as related courses. Minor: A maximum of two courses may be counted.

II. Duke-Administered Semester Programs (Office of Study Abroad)
   Duke-Administered Semester Programs in English (Duke-in-Florence; Duke-in-Venice). Major: a maximum of three courses per semester may be counted as related courses. Minor: A maximum of one course may be counted toward the core-course requirement.

III. Non-Duke-Administered Semester Programs
   Major: A maximum of two courses per semester may be counted toward the core-course requirement. Minor: One course per semester may be counted.
IV. Non-Duke-Administered Semester Programs in Italy (taught in Italian)

Major: A maximum of two courses per semester may count toward the core-course requirement and a maximum of one may count as a related course. Minor: a maximum of two courses per semester may count.

V. Duke-Administered Summer Programs (Office of Study Abroad)

A. Duke-Administered Summer Programs in the Language

1. Duke-in-Barcelona; Duke-in-Spain. Major: Two courses may be counted toward the core-course requirement. Minor: Two courses may be counted.

2. Duke-in-Paris. Major: Two courses may be counted toward the core-course requirement. Minor: Two courses may be counted.

3. Duke-in-Brazil. Major: Two courses may be counted.


5. Duke-in-Montréal. Major: One course may be counted toward the core-course requirement. Minor: One course may be counted.

B. Duke-Administered Summer Programs in English (Duke-in-Venice). Major or Minor: One course may be counted toward the core-course requirement.

VI. Non-Duke-Administered Summer Programs

Major: One course may be counted toward the core-course requirement. Minor: One course may be counted.

Russian

For courses in Russian, see “Slavic and Eurasian Studies” on page 595.

Study of Sexualities (SXL)

Associate Professor Wilson (Women’s Studies), Director

A certificate, but not a major, is available in this program.

The Program in the Study of Sexualities offers an interdisciplinary course of study that introduces students to critical analyses of the various expressions of sexuality in societies around the world, both past and present. Such expressions encompass a wide range from heterosexuality to homosexuality and include other erotic desires, sexual relationships, and gender roles. Critical analyses concern how sexuality is formed, defined, and regulated by biological and social forces.

Students must take as an introductory course Study of Sexualities 199S, and five additional courses, one of which must be the senior capstone course Queer Theory SXL 470S, designed mainly for program participants. Of the total six courses, no more than three can originate in a single department, and four must be at or above the 200 level. Appropriate courses may come from the list given below and may include other courses (new courses, special topics courses, and independent study) as approved by the director. Regular courses are described under the listings of the various departments. Students may also wish to take advantage of house courses offered on topics in this area although house courses cannot satisfy the requirements of the program.

89S. First Year Seminar. New concepts and themes in the Study of Sexualities. Topics vary each semester. Instructor: Staff. One course.

199S. Introduction to Study of Sexualities. CZ Topics include homosexuality and theory, history, law, religion, education, the arts and literature, the military, and the health sciences. Instructor: Staff. One course. C-L: Women's Studies 202S

210. Medieval Bodies: Sex & Food. CCI, CZ, EI One course. C-L: see History 246; also C-L: Medieval and Renaissance Studies 256, Women's Studies 219
225. Women in Film. ALP, CCI One course. C-L: Arts of the Moving Image 216, Women's Studies 227, Literature 219

229. Sexuality and Society. CCI, EI, R, SS One course. C-L: see Sociology 349


233. Traffic in Women: Cultural Perspectives on Prostitution in Modern China. ALP, CCI, SS One course. C-L: see Asian & Middle Eastern Studies 333; also C-L: Cultural Anthropology 334, Women's Studies 233, Arts of the Moving Image 270

235S. Clinical Issues for the LGBTQ Community. CCI, SS An introduction to LGBTQ issues in the mental-health field and other people-focused professions, e.g. medicine, education, and law. An examination of the historical treatment of the LGBTQ population in psychological practice, the evolution of mental-health care for members of the LGBTQ community, and the psychological effects of social norms on LGBTQ individuals, couples, and families, including non-pathologizing, heterosexual bias, genderism, self-identification, coming out, multiple-minority identities, parenting, and couple dynamics. Instructor: Long. One course. C-L: Women's Studies 235S, Psychology 310S

264S. Race, Gender, and Sexuality. CCI, SS One course. C-L: see Women's Studies 364S; also C-L: African and African American Studies 242S

268. Gender, Sexuality, and Human Rights. CCI, EI, SS One course. C-L: see Women's Studies 368

268S. Gender, Sexuality, and Human Rights. CCI, EI, SS One course. C-L: see Women's Studies 368S

290. Selected Topics. SS Lecture version of Study of Sexualities 290S. Topics vary each semester offered. Instructor: Staff. One course.

290S. Seminars in Selected Topics. Topics vary each semester offered. Instructor: Staff. One course.


373. American Sexualities. CCI, CZ, EI, SS One course. C-L: see History 373

413S. Capstone Seminar: Modern Sex: Sexuality and Modernity in the Americas. CCI, CZ, R, SS One course. C-L: see History 452S

470S. Queer Theory. ALP, CCI, SS One course. C-L: see Women's Studies 370S; also C-L: Literature 475S, Marxism and Society

PROGRAM COURSES OFFERED THROUGH OTHER DEPARTMENTS

Arts of the Moving Image
220S. Sexualities in Film and Video

Cultural Anthropology
150. Fantasy, Mass Media, and Popular Culture
271. Gender and Culture
429. Gender and Sexuality in Latin America

Dance
368. Gender in Dance and Theatre

International Comparative Studies
105. Fantasy, Mass Media, and Popular Culture
203. Gender and Culture
426. Gender and Sexuality in Latin America

Literature
315S. Sexualities in Film and Video
465S. Feminist Classics

Medieval and Renaissance Studies
655. Early Christian Asceticism

Political Science
306S. Politics and the Libido

Psychology
374S. Human Sexuality

Religion
367. Women and Sexuality in the Christian Tradition
634. Early Christian Asceticism

Sociology
218. Sex, Gender, and Society

Theater Studies
236. Gender in Dance and Theatre

Visual and Media Studies
105. Fantasy, Mass Media, and Popular Culture
295S. Sexualities in Film and Video

Women's Studies
212. Gender in Dance and Theatre
217. Gender and Culture
361S. Money, Sex, and Power
429. Gender and Sexuality in Latin America

Slavic and Eurasian Studies
Professor Holmgren, Chair; Professor Andrews, Director of Undergraduate Studies; Professors Andrews and Holmgren; Associate Professor Gheith; Assistant Professor Göknar and Tuna; Professors of the Practice Flath, Maksimova, and McAuliffe; Associate Professor of the Practice Van Tuyl; Research Scholar Mickiewicz; Affiliated Faculty: Professor Miller (history); Associate Professor Tetel (English); Adjunct Associate Professor Newcity; Adjunct Assistant Professor Zitser

Two majors and three minors are available in this department.

The Department of Slavic and Eurasian Studies has a strong commitment to increase the language proficiency of its students regardless of their level at matriculation, to facilitate deep knowledge of the cultural context of each language represented, to help students develop their own scholarly interests and research abilities, and to acquaint students with trends in literary, linguistic, and cultural theory. Areas of specialization include nineteenth and twentieth century Russian and Soviet literature, Turkish and Polish language and literature, semiotics, gender studies, film and media studies, legal and business Russian language, translation, Slavic linguistics, contemporary Russian, Polish, and Turkish literature, scientific and scholarly Russian language, stylistics, and Russian, Polish, and Turkish cultural history. Languages taught include Russian, Turkish, Polish, and Romanian. Other Slavic languages occasionally taught include Ukrainian and Hungarian.

Resources for study include a state-of-the-art language laboratory with video facilities and a humanities computing facility, reception of daily Russian television programming, and an exchange program with St. Petersburg University. The department also hosts a Focus seminar and maintains a cooperative relationship with the Duke Linguistics Program, the Program in Literature, Women's Studies, Cultural Anthropology, and the Center for Slavic, Eurasian and East European Studies, as well as with related programs at the University of North Carolina at Chapel Hill.

SLAVIC AND EURASIAN STUDIES (SES)

106S. Gateway Seminar: Cultural Exchange in Continental Asia. CCI, CZ, R One course. C-L: see History 153S; also C-L: Asian & Middle Eastern Studies 107S

112. Accelerated Uzbek Language and Culture I. FL Accelerated study of contemporary Uzbek language and culture. Intended for students with no previous knowledge of Uzbek: speaking, reading, writing, grammar and listening comprehension and appropriate use of cultural constructs. Instructor: staff. One course.

113. Accelerated Uzbek Language and Culture II. CZ, FL Continuation of Uzbek 10. Intermediate level of proficiency in five areas: grammar, speaking, listening comprehension, reading and writing. Language taught embedded in cultural constructs. Prerequisite: Uzbek 10 or equivalent. Instructor: staff. One course.

205FS. Language and the Law. CZ, EI, SS Ways in which law regulates language and speech, with particular emphasis on offensive speech. Theory and practice of freedom of speech and its limitations; how the legal system treats obscenity, profanity and "indecent" speech, defamation, and hate speech. Emphasis on why these
Forms of speech are considered offensive, with reference to sociological, anthropological, and political explanations for restrictions on offensive speech. Studies language as property in form of copyright, trademark, and trade secrets law. Comparative approach, considering how different societies have dealt with these difficult issues. Instructor: Newcity. One course. C-L: Linguistics 205FS

209FS. Geopolitics & Globalization: From Bosnia to Afghanistan. ALP, CCI, CZ Study of countries on the geographical periphery of the commonly defined Middle East: Bosnia, Turkey, Armenia, Chechnya, Iran, and Afghanistan. All of these countries have deep Middle Eastern ties and traditions, sizeable communities with Middle Eastern origins and connections, and recent histories of cultural and ethnic conflict and violence. Exploration of how the Middle Eastern components and histories in these conflicts have been distorted and obscured as the conflicts have been depicted through the lenses of U.S. or Soviet/Russian geopolitical interests. Instructor: Goknar. One course. C-L: Turkish 209FS, Islamic Studies

215FS. The Politics of Language. SS Examines the political role of language in societies as diverse as China, India, the former Soviet Union, the UK and the US. Looks at how state and non-state actors influence citizens' language practices, and their beliefs about language. Drawing on political theory, sociology and sociolinguistics, we look at how language policies reflect and produce sociopolitical realities. Topics covered include migration, citizenship, nationalism and decolonization. Open to students in the Focus Program only. Instructor: Price. One course. C-L: Political Science 185FS, Linguistics 213FS

279FS. Turkey: Muslim and Modern. CCI, CZ, SS Turkish history from the 18th century to the present. Turkey as strategic ally of the US; candidate for membership in European Union; first Muslim country to adopt democracy, secularism, and Westernization, and as political, cultural, and economic model for other Muslim countries. Focus on Turkish people’s encounter with modernity as Muslims; questions about contradictions and promises of Muslim and modern experience; informed consideration of Islam’s encounter with the West. No prerequisites. No knowledge of Turkish required. Instructor: Tuna. One course. C-L: Turkish 279FS, Islamic Studies

286S. Borderland and Battleground: A journey Through Twentieth-Century Eastern Europe. ALP, CCI, CZ Explores through history, film, fiction, and memoirs the "extreme" political experience, hybrid ethnic identities, and stunning art and testimony of twentieth-century Central and Eastern European cultures, including Poland, Czechoslovakia, Hungary, Romania, and Yugoslavia. Traces the emergence of new nation states in the region at the end of World War I, the rise of Nazism and Stalinism, the devastating experience of World War II, and the absurdist mix of politics and daily life in Eastern Europe from 1945 until the fall of the Berlin Wall. Graduate level version of SES 186; undergraduates may enroll only with permission of instructor. Instructor: Holmgren. One course. C-L: Literature 296S

288S. Trauma and Nostalgia: East European Film in the 21st Century. ALP, CCI, CZ, EI Examines the major thematic focus of East European filmmakers in the 21st century: their efforts to reconstruct and reassess the experience of the Cold War (1945-1989) and the Yugoslav wars (1991-1995). These films from the Czech Republic, Hungary, Poland, Romania, Croatia, and Serbia include ironic/sentimental tales of Cold War childhood, thrillers about sleeping with the enemy (political informers), and psychological dramas centering on political trauma, resistance, and compromise. All films shown with English subtitles. No prerequisites. Instructor: Holmgren. One course. C-L: Polish 288S, Literature 216S, Arts of the Moving Image 268S

342A. Between Europe and Asia: The Geopolitics of Istanbul From Occupation To Globalization. CCI, CZ, EI Istanbul as a site of historical, political and cultural interaction between Europe and Turkey. Approach framed by two important geopolitical events separated by nearly a century: first, the Allied occupation of Istanbul after WWI, which gave rise to the modern Middle East, and second, Turkey’s accession to the European Union, a contested transnational process that officially began in 2005. Examination of issues arising from Turkey’s separation from Europe as a Muslim country and its potential reintegration as a functioning democracy. Offered only in the Duke-in-Turkey study abroad program. Instructor: Goknar. One course. C-L: Turkish 342A, Asian & Middle Eastern Studies 389A
343A. Gender, Politics and Space in the Middle East. CCI, CZ, EI
Examination of relationships of gender, space, and politics in the modern Middle East. Considers how representations of the Middle East are gendered, analyzing such icons as the "veiled women" and "terrorist men" and the political implications of such representations. Topics include the emergence of new femininities, masculinities, and sexual identifications, social movements, and the paradoxes of Islamism, globalization, and neoliberalism in various settings. Offered only in the Duke-in-Turkey study abroad program. Instructor: Gokariksel. One course. C-L: Turkish 343A, Asian & Middle Eastern Studies 303A, Political Science 213A

345. Orhan Pamuk and World Literature. ALP, CCI, CZ, EI
Studies the novels and non-fiction of Nobel Laureate Orhan Pamuk as an introduction into ethics and politics of World Literature. Addresses social consequences of Pamuk's role as an intellectual-author who mediates between the national tradition and an international canon. Political implications of Sufism, cultural revolution, Orientalism, and post-colonialism. Secondary focus on cosmopolitan Islam and the Ottoman Empire. No prerequisites; taught in English. Instructor: Göknar. One course. C-L: Turkish 345, Asian & Middle Eastern Studies 382, International Comparative Studies, Islamic Studies

356. Imperial Russia 1700-1917. CCI, CZ, SS
Russian imperial history from Peter the Great to Bolshevik Revolution: 1700-1917. Focus on formation and governance of multiethnic and multiconfessional Russian empire. Traces expansion of land-locked city state (Muscovy) into world power ruling from Eastern Europe to Alaska. Questions implications of Russia's world-power status. Examines institutions of governance that created this empire and held its various ethnic, religious and ideological groups together for centuries. Readings of English translations of works of Russian literature and historiographic analyses aimed at developing a sound grounding in Russian imperial history and culture. Instructor: Tuna. One course. C-L: Russian 356, History 275

370. Islam in Central Eurasia. CCI, CZ, SS
History of Central Eurasian Muslims. Focus on diversity and cultural vivacity. Examines early appearance of Islam in the region, the evolution of Muslim religious and cultural institutions under governance of Chingissid, Timurid, Russian and Chinese empires, the encounter of Central Eurasian Muslims with European modernity and their experience during Soviet and Chinese socialist experiments. Instructor: Tuna. One course. C-L: History 209, Religion 378, Russian 370, International Comparative Studies, Islamic Studies

373S. Journey to Eurasia. CCI, CZ, R, SS
Exercise in reconstructing Eurasian history from the 13th century Mongol invasions to post-Soviet era through critical reading of eyewitness accounts--travel notes and memoirs. Reflects on political, religious, and cultural evolution, expansion, and rivalry as well as cross-cultural and trans-regional exchange. Instructor: Tuna. One course. C-L: History 216S, International Comparative Studies, Islamic Studies

382. Putin's Russia: The History of Economic and Political Consolidation. CCI, CZ, EI, SS
One course. C-L: see History 283; also C-L: Political Science 220

385. Language and Society. CCI, SS
One course. C-L: see English 395; also C-L: Linguistics 451, Cultural Anthropology 212

386S. Borderland and Battleground: A Journey Through Twentieth-Century Eastern Europe. ALP, CCI, CZ
Explores through history, film, fiction, and memoirs the "extreme" political experience, hybrid ethnic identities, and stunning art and testimony of twentieth-century Central and Eastern European cultures, including Poland, Czechoslovakia, Hungary, Rumania, and Yugoslavia. Traces the emergence of new nation states in the region at the end of World War I, the rise of Nazism and Stalinism, the devastating experience of World War II, and the absurdist mix of politics and daily life in Eastern Europe from 1945 until the fall of the Berlin Wall. All course texts in translation. Instructor: Holmgren. One course.

396S. Language in Immigrant America. ALP, CCI, R
One course. C-L: see English 396S; also C-L: Cultural Anthropology 397S, Linguistics 396S
420S. Capstone Seminar: Russia-USSR-Russia: History of Communism. CCI, CZ, EI, R, SS One course. C-L: see History 467S; also C-L: Political Science 445S

423S. City Stops Between Europe and Asia: From Prague to Kabul. CCI, CZ, SS Explores the multi-layered histories and identities of cities positioned on imperial routes extending from Europe's eastern borders into Central Asia—Prague, Warsaw, Kazan, Istanbul, Bukhara/Tashkent, Kabul. Examines how these urban spaces bear the political, religious, cultural, and linguistic imprints of overlapping empires—Mongol, Ottoman, Hapsburg, Russian, and Soviet. No prerequisites. All readings in English translation and films screened with English subtitles. Open to all students; also serves as capstone for SES majors. One course.

433S. Soviet Life through the Camera's Lens. ALP, CCI, CZ, FL An in-depth look at images and representations of Soviet life through Soviet and Russian film. Film texts include films shown in theatres, television films and forbidden films/films with a very limited distribution. Emphasis on the period from the mid-1970s through 1991. Course taught in Russian. Prerequisite: Russian 301S or equivalent or consent of instructor. Instructor: Maksimova. One course. C-L: Russian 433S

434S. Cold War Texts: Politics, Propaganda and Pop Culture. ALP, CCI, EI, SS One course. C-L: see Linguistics 472S; also C-L: Sociology 472S, Public Policy Studies 213S

484S. Language and Politics: Eurasian Perspectives. CCI, SS One course. C-L: see Linguistics 471S; also C-L: Sociology 471S, Public Policy Studies 208S

490. Special Topics in Slavic and Eurasian Studies. Subject varies from semester to semester. Instructor: Staff. One course.

490S. Special Topics in Slavic and Eurasian Studies. Subject varies every semester. Instructor: Staff. One course.

564. Russian and Slavic Linguistics. SS Emphasis on synchronic linguistic theory focusing on East Slavic and Russian, but including diachronic approaches, and West and South Slavic languages. Focus on phonological, morphological, semantic and syntactic structures of Contemporary Standard Russian and modern Slavic languages. Instructor: Andrews. One course. C-L: Russian 564, Linguistics 564

BALTO-FINNIC (BALTFIN)

490AS. Duke-Administered Study Abroad: Advanced Special Topics in Balto-Finnic. CCI Topics differ by section. Instructor: Staff. One course.

HUNGARIAN (HUNGARN)

111. Intensive Hungarian Language and Culture. FL Introduction to Hungarian comprehension, speaking, writing, reading, and cultural acquisition. Instructor: Staff. Two courses.

203. Intermediate Hungarian Language and Culture. FL Focus on the study of Hungarian phonetics, grammar, discourse, textual analysis, and writing. Prerequisites: Hungarian 1 and 2 or Hungarian 111 or consent of instructor. Instructor: Staff. One course.

212. Intensive Intermediate Hungarian. FL Intensive study of Hungarian at the intermediate level. Equivalent of two semesters. Prerequisites: Hungarian 1 and 2 or equivalent. Instructor: Viktorov. Two courses.

490AS. Duke-Administered Study Abroad: Advanced Special Topics in Hungarian. CCI Topics differ by section. Instructor: Staff. One course.

PASHTO (PASHTO)

101. Elementary Pashto I. FL Acquisition of the Arabic-based script, the mechanics of right-to-left reading and writing, the sounds of the language, and the basic sentence types. Emphasis on reading comprehension and writing, accurate pronunciation and spoken ability. Simple dialogues and conversations used to lay the foundation for oral proficiency. Includes poems and short videos, online multimedia resources, and interaction with class guests. Instructor: Staff. One course.


204. Intermediate Pashto II. FL Continuation of Pashto 203. Prerequisite: Pashto 101, 102, 203, or equivalent. Instructor: Staff. One course.

POLISH (POLISH)

101. Elementary Polish. FL Introduction to understanding, speaking, reading, and writing Polish. No preliminary knowledge of Polish necessary. Instructor: Staff. One course.


203. Intermediate Polish. FL Intensive classroom and laboratory practice in spoken and written patterns. Readings in contemporary literature. Prerequisites: Polish 101 and 102, or consent of instructor. Instructor: Staff. One course.

204. Intermediate Polish. FL Continuation of Polish 203. Prerequisite: Polish 203 or consent of instructor. Instructor: Staff. One course.

288S. Trauma and Nostalgia: East European Film in the 21st Century. ALP, CCI, CZ, EI Examines the major thematic focus of East European filmmakers in the 21st century: their efforts to reconstruct and reassess the experience of the Cold War (1945-1989) and the Yugoslav wars (1991-1995). These films from the Czech Republic, Hungary, Poland, Romania, Croatia, and Serbia include ironic/sentimental tales of Cold War childhood, thrillers about sleeping with the enemy (political informers), and psychological dramas centering on political trauma, resistance, and compromise. All films shown with English subtitles. No prerequisites. Instructor: Holmgren. One course. C-L: Literature 216S, Arts of the Moving Image 268S, Slavic and Eurasian Studies 288S

301S. Contemporary Polish Composition and Readings. CCI, FL Advanced grammar and syntax with intense composition component. Analytical readings in the original. Prerequisite: Polish 203 and 204, or equivalent. Instructor: Staff. One course.

302S. Contemporary Polish Composition and Readings. CCI, FL Continuation of Polish 301S. Prerequisite: Polish 301S. Instructor: Staff. One course.

305S. Studies in Polish Literature. ALP, CCI Selected Polish writers and works in their literary and historical contexts. Taught in English. Instructor: Holmgren. One course.

306. Polish Culture from 1795 to the present. ALP, CCI, CZ, FL Polish culture and history explored largely through works of literature, especially poetry, historical readings, and several post-1945 films with based on seminal works of Polish literature or dealing with important historical events. Readings and films in Polish. Focus on Polish struggles for independence and full autonomy (the latter in the communist period 1945-1989), the growth of the modern Polish nation, the role of the Catholic Church, ethnic issues (in particular the Jews in Polish culture), gender issues, the changing self-image of Poles, dissident and Solidarity movement, and current events in post-communist Poland as a member of the European Union. Instructor: Hueckel. One course.

307S. National Dramas and Cabaret Nights: Theater in Modern Polish Culture. ALP, CCI, CZ Explores the vital functions of the theater established during Poland's foreign occupation (1795-1918) and continuing throughout the 20th century -- as a showcase for the nation, expression of political protest, a temple of spiritually transformative art, and a refuge of topical, satirical entertainment. Highlighted topics include the important national dramas of Mickiewicz and Wyspianski; absurdist satires by Witkacy, Gombrowicz, and Mrozek; pre-war cabarets and postwar alternative experimental theater; and Grotowski's revolutionary
theories about theater, the dramatic text, and the player/audience relationship. Instructor: Holmgren. One course. C-L: Theater Studies 324S

308S. Fragmented Memories: Polish and Polish Jewish Culture Through Film. ALP, CCI, CZ, EI Analyzes, compares, and assesses representations of Polish Christians and Polish Jews -- their life experiences, interactions, shared and separate fates -- in documentaries and fiction films made in Poland from the 1930s to the present day. Includes films by Wajda, Polanski, Munk, Kieslowski; also a 2008 documentary about pre-World War II Christian-Jewish relations in Poland by Jolanta Dylewska. All films screened with English subtitles. Instructor: Holmgren. One course. C-L: Religion 269S, Jewish Studies 269S

390AS. Duke-Administered Study Abroad: Advanced Special Topics in Polish. CCI Topics differ by section. Instructor: Staff. One course.

ROMANIAN (ROMANIAN)

111. Intensive Romanian Language and Culture. FL Introduction to Romanian comprehension, speaking, writing, reading, and cultural acquisition. Instructor: Staff. Two courses.

203. Intermediate Romanian Language and Culture. FL Focus on the study of Romanian phonetics, grammar, discourse, textual analysis, and writing. Prerequisite: Romanian 111 or consent of instructor. Instructor: Staff. One course.

212. Intensive Intermediate Romanian. FL Intensive study of Romanian at the intermediate level. Equivalent of two semesters. Prerequisite: Romanian 111 Instructor: Staff. Two courses.

RUSSIAN (RUSSIAN)

89S. First-Year Seminar. CCI Topics vary each semester offered but are restricted to the study of literature, linguistics, and culture in the Slavic world. Instructor: Staff. One course.

101. Elementary Russian I. FL Introduction to understanding, speaking, reading, and writing. Study of contemporary Russian language and important elements of Russian culture. Instructor: Van Tuyl. One course.

102. Elementary Russian II. FL Continuation of Russian 101. Introduction to understanding, speaking, reading, and writing. Study of contemporary Russian language and important elements of Russian culture. Second half of Russian 101, 102. Prerequisite: Russian 101. One course.

103. Elementary Russian Conversation. Introduction to spoken Russian with emphasis on basic conversational style and increasing vocabulary. Co-requisite: Russian 101 or Russian 111. Instructor: Staff. Half course.

104. Elementary Russian Conversation. Continuation of Russian 103. Prerequisite: Russian 101 or Russian 111. Instructor: Staff. Half course.

111. Intensive Russian. FL Intensive study of contemporary Russian language and important elements of Russian culture. Instructor: Andrews or Maksimova. Two courses.

112. Accelerated Russian Language and Culture I. FL Accelerated study of contemporary Russian language and important elements of Russian culture. Intended for students with no previous knowledge of Russian interested in achieving significant proficiency in speaking, reading, writing, and comprehension based on cultural constructs in one semester of study. Includes significant use of technology to enhance learning. Instructor: Staff. One course.

120FS. Grief Work: End of Life Care in Russia and America. CCI, CZ, EI Examines policy issues in end of life care by considering personal and societal ethical issues. Cross-cultural analysis of end of life care addressing ethical issues in comparative perspective of diverse populations: how do different cultural attitudes to dying, death, and health affect end of life care? Ethical issues about access to health care, whether/how long to keep people alive on machines, and how these decisions are made. Open only to students in FOCUS Program. Instructor: Gheith. One course.
190S. Special Topics in Russian Culture. Special Topics in Russian Culture. Topics vary each semester. Instructor: Staff. One course.

203. Intermediate Russian I. FL Intensive classroom and laboratory practice in spoken and written patterns. Reading in contemporary literature. Prerequisite: Russian 101 and 102, or two years of high school Russian. Instructor: Flath. One course.

204. Intermediate Russian II. FL Intensive classroom and laboratory practice in spoken and written patterns. Reading in contemporary literature. Prerequisite: Russian 101, 102 and 203 or equivalent. Instructor: Flath. One course.

205. Intermediate Russian Conversation. Consolidation of oral skills. Intensive conversation on a broad range of topics. Prerequisite: Russian 101 and 102, or equivalent. Instructor: Staff. Half course.

206. Intermediate Russian Conversation. Continuation of Russian 205. Prerequisite: Russian 205 or equivalent. Instructor: Staff. Half course.

207AS. Intermediate Russian Language and Culture. CZ, FL Intensive classroom practice in phonetics, conversation, and grammar. Focus on literature and films, with museum and theater performance component. (Taught in St. Petersburg in Russian and English depending on placement.) Prerequisite: Russian 102 or equivalent. Instructor: Staff. One course.

208AS. Intermediate Russian Language and Culture. CZ, FL Continuation of Russian 207AS. (Taught in St. Petersburg in Russian and English depending on placement.) Prerequisite: Russian 207AS or equivalent. Instructor: Staff. One course.

210FS. Islam and Orthodoxy. CCI, CZ Same as Russian 210S; open only to students in the Focus Program. Instructor: Staff. One course. C-L: Islamic Studies

210S. Dervishes, Saints and Other Holy Fools. CCI, CZ Introduction to the history, distinctive doctrines, institutions, controversies, and influences of Orthodox Christianity and Islam in Russia, Central Asia and the Caucasus, including issues related to identity formation, ideology and difference in religious discourse. Particular attention will be paid to the relationship of religious identity to other identity terms (tribal, clan, nation, state), to the different subjectivities made possible by differing ideologies and world views, and to the instrumental and ethical dimensions of identity claims, religious functions of monasticism and Sufi brotherhood, and explorations of the influence of both Orthodoxy and Islam on arts and literature. Instructor: Need. One course. C-L: Islamic Studies

211FS. The Empire's Western Front: Russian and Polish Cultures. ALP, CCI, CZ Same as Russian 211S; open only to students in the Focus Program. Instructor: Holmgren. One course.

211S. The Empire's Western Front: Russian and Polish Cultures. ALP, CCI, CZ Exploration through literature and film of the relationship between Russian and Polish cultures in the nineteenth and twentieth centuries when imperial Russia/Soviet Union figured as Poland's problematic "east," and subject state of Poland figured as Russia's problematic "west." Nineteenth century anti-tsarist uprisings, 1920 Soviet-Polish campaign, Poland's postwar sovietization, rise of Solidarity, construction of their respective national identity vis-a-vis an other imagined as foe or friend in fiction, drama, film, memoirs. Includes works by Pushkin and Dostoevsky; films by Andrzej Wajda. One course.

212. Intensive Intermediate Russian. FL Russian 203 and 204 combined. Two meetings daily, as well as daily computer and language laboratory work. Instructor: Staff. Two courses.

213. Accelerated Russian Language and Culture II. FL Continuation of Russian 112. Prerequisite: Russian 101, 112 or 111. Instructor: Andrews, Van Tuyl, and staff. One course.

214FS. Law and Globalization in Emerging Markets. CCI, SS Same as Russian 214S; open only to students in the Focus Program. Instructor: Newcity. One course. C-L: International Comparative Studies 277FS, Public Policy Studies 214FS
214S. Law and Globalization in Emerging Markets. CCI, SS The processes of law and economic reform in Eurasia and how they are shaped by external influences and domestic factors: effect of membership in the World Trade Organization, the European Union, the Council of Europe, NATO, and other such organizations; strategies followed to establish the rule of law and constitutionalism, protection of property ownership, human rights. One course. C-L: Public Policy Studies 214S, International Comparative Studies 277S

216FS. Neuroscience and Human Language. NS, SS One course. C-L: see Linguistics 216FS; also C-L: Neuroscience 116FS

216S. Neuroscience and Human Language. NS, SS One course. C-L: see Linguistics 216S; also C-L: Neuroscience 116S

217. Russian Art and Politics: 1800-Present. ALP, CCI, CZ Historical and contemporary engagement of visual culture—painting, sculpture, architecture, graphic arts, film, photography—with the political sphere in Russia from the early nineteenth century to the present. Interactions between artists, art critics, censors, government authorities, and the public indicating how visual culture both responded to demands from the political sphere and shaped the political discourse of the day. Instructor: Kachurin. One course. C-L: Art History 287

217FS. Russian Art and Politics. ALP, CCI, CZ Same as Russian 217, but open only to students in the FOCUS program. Instructor: Kachurin. One course. C-L: Art History 287FS

218S. The Diaghilev Ballet:1909-1929. ALP, CCI, CZ, R, W One course. C-L: see Dance 326S; also C-L: Music 341S

221A. Russian Language Studies in St. Petersburg. CCI, FL Russian grammar, composition and textual analysis taught only in St. Petersburg for students participating in the semester program. Explicit analysis of historical and contemporary cultural representations and texts in language, literature and the verbal arts. Instructor: Staff. One course.

222A. Language, Culture, and Myth: The Slavic Proverb. ALP, CCI The sources of the Slavic proverb, the proverb as microtext of national stereotypes, and its function in modern literature and culture. West, South and East Slavic proverbs contrasted with other Indo-European language families. Theoretical aspects include explications of the relationship of language and culture and problems of translation. Taught in English or Russian. Readings in Russian with excerpts from other Slavic languages. Taught in St. Petersburg, Russia. Instructor: Staff. One course.

223A. Contemporary Russian Media. CCI, EI, FL, SS Same as Russian 135 but taught only in St. Petersburg. Taught in Russian. Prerequisite: Russian 204 or equivalent. Instructor: Staff. One course. C-L: Visual and Media Studies 320A, International Comparative Studies, Arts of the Moving Image

224S. Russian Phonetics. CCI, FL Analysis of contemporary standard Russian literary pronunciation, phonology, and intonational structures. Prerequisite: Russian 204 or consent of instructor. Instructor: Staff. One course.


301S. Contemporary Russian Composition and Readings. CCI, FL Advanced grammar and syntax with intense composition component. Analytical readings in the original. Prerequisite: Russian 203 and 204, or equivalent. Instructor: Staff. One course.

302S. Contemporary Russian Composition and Readings. CCI, FL Continuation of Russian 301S. Prerequisite: Russian 301S. Instructor: Staff. One course.

303. Third-Year Russian Conversation. Conversation course for students enrolled in Russian 301S. Not open to students currently taking Russian 203 or Russian 402. Instructor: Staff. Half course.
304. Third-Year Russian Conversation. Continuation of Russian 303. Conversation course for students enrolled in Russian 302S. Not open to students currently taking Russian 204 or Russian 402. Instructor: Staff. Half course.

307AS. Studies in the Russian Language and Culture. ALP, CCI, CZ, FL Analytical readings including grammatical and textual analysis. Additional work in phonetics and conversation. Literature, films, museums, and theater performances central for analysis and written assignments. (Taught in St. Petersburg in Russian.) Prerequisite: Russian 204 or equivalent. Instructor: Staff. One course. C-L: International Comparative Studies

308AS. Studies in the Russian Language and Culture. CCI, CZ, FL Continuation of Russian 307AS. Prerequisite: Russian 307AS or equivalent. Instructor: Staff. One course. C-L: International Comparative Studies

310S. The Russian Fairy Tale and Its Cultural Legacy. ALP, CCI, CZ Introduction to Russia's extraordinary fairy tales and their rich legacy in modern Russian literature, music, visual and performing arts, and handicrafts. Reflects on the genesis of the Russian fairy tale; samples thematic groups of tales (e.g., the "foolish" third son, stepmother-stepdaughter tales); reads tales as expressions of folk belief, works of oral art, explorations of the human psyche and human relations, and stylized reflections of their sociopolitical context. Also traces how certain tales have been reworked into other art forms. All texts in English translation. Instructor: Holmgren. One course.

311. The Quest for Identity: Russian Literature and Culture, 1800-1855. ALP, CCI, W Examines how Russian writers and artists distinguished imperial Russia's modern political, social, and cultural identity under "Western eyes." Topics include search for "truly Russian" models, topics, and styles; domestic debate between "Westernizing" and "Slavophile" camps; emergence of women writers; relations between urban and provincial cultures; connections between national identity formation and empire building. Course texts may include fiction, memoirs, and drama by Pushkin, Durova, Gogol, Lermontov, and Pavlova; social commentary by Belinsky and Herzen; works of fine art and folk culture. Instructor: staff. One course.

312. The Struggle for Justice and Faith: Russian Literature and Culture, 1855-1900. ALP, CCI, W Considers how Russian writers, artists and activists addressed 19th-century Russia's cursed questions of "who is to blame" and "what is to be done": specifically, how to reform an increasingly reactionary autocracy; how to bear witness for an impoverished underclass; what roles women should play in culture and politics; how to resist or improve on a soulless West; how to justify the existence of God in an unjust world. Course texts may include fiction and memoirs by Turgenev, Tolstoy, Dostoevsky, Kovalevskaia, Figner; works of fine art, drama, and opera. Instructor: staff. One course. C-L: International Comparative Studies 281, Religion 265

313. The Russian Novel. ALP, CCI, R Close reading of Tolstoy's Anna Karenina, Dostoevsky's Possessed, Andrey Bely's Petersburg, Bulgakov's Master and Margarita, Nabokov's The Gift, and Makine's Memoirs of my Russian Summers. Discussions will focus on these representative writers' changing perceptions of, and responses to social and ethical issues and of creativity, itself, as the genre evolved in the modern times between the 1870s and now. Final research paper required and can include in-depth discussion of one of the works or the comparison of one or more aspects of several texts. Taught in English. Instructor: Mickiewicz. One course.

314. The Devil in Russian Literature. ALP, CCI The symbolic and metaphorical system that surrounds the image of the Fiend; the figure of the Devil in his various manifestations through Russian folklore, culture, and literature. Taught in English. Instructor: Mickiewicz. One course.

315. Women and Russian Literature. ALP, CCI Issues of gender and society in women's writing in Russian from the eighteenth to the twentieth centuries. Both autobiographical writings and prose fiction. Discussions of whether Russian women's writings constitute a tradition and what role these works have played in Russian literature and culture. Taught in English. Instructor: Gheith. One course. C-L: International Comparative Studies, Women's Studies

316. Russian Short Fiction. ALP, CCI The history, development, and shifts of Russian short fiction in the nineteenth and twentieth centuries. Authors include Dostoevsky, Vovchok, Leskov, Chekhov, Gippius, and
Zoshchenko. Topics include gender, genre, and national identity in historical/cultural context. Taught in English. Instructor: Gheith. One course. C-L: International Comparative Studies

**320S. END OF LIFE IN RUSSIA & U.S.** CCI, EI, SS  
Brief history of hospice movement in US and Russia. Examine key moments in end of life issues in each country; focus on social attitudes to death and dying and their effects on end of life care. Sources include memoirs, fiction, theoretical works, and policy documents. Service learning course; includes work at sites such as the Unicorn Bereavement Center, a skilled nursing facility, or the state’s attorney’s office. Instructor: Gheith. One course.

**321. The New Russia: Reflections of Post-Soviet Reality in Literature and Film.** ALP, CCI, EI  
Examination of fiction and film in the post-Soviet period. Topics include crime and social breakdown in the 1990s and 2000s; transformations of classic character types (anti-hero, virgin-whore, swindler-rogue); religious and ethical quests; taboo-breaking themes. Works by authors Sorokin, Grishkovets, Pelevin, Petrushevskaya, Sadur, Shishkin, Mineaev, Tolstaya, Akunin, Ulitskaya and filmmakers Bodrov, Rogozhkin, Bekmambetov, Khlebnikov/Popogrebsky, Balabanov, and Sokurov. Readings and class discussions in English. Instructor: Apollonio. One course.

**322S. Women in Contemporary Russian Society.** ALP, CCI, CZ, R  
Explores the political, social, economic, and domestic challenges facing women in post-soviet Russia and analyzes Russian women's collective and individual responses through activism, organization, journalism, and the arts. Specific topics include women in official/oppositional politics, women and the market, women's health and physical welfare. Instructor: Holmgren. One course. C-L: Public Policy Studies 215S, International Comparative Studies, Women's Studies

**323. Dostoevsky.** ALP, CCI, W  
Introduction to life, works, and criticism. Readings include: *Crime and Punishment*, *The Idiot*, and *The Brothers Karamazov*. Taught in English. Instructor: Flath or Gheith. One course. C-L: International Comparative Studies

**324S. Chekhov for Writers.** ALP, CCI, W  
Anton Chekhov as teacher and guide for students of the English and North American short story. Critical analysis combined with writing practicum in a workshop-format seminar. Topics addressed include the role of imitation and parody in the writing process; problems of translation; plagiarism and its limits; critical and scholarly approaches to the short story in the English and Russian traditions; literature across cultural and linguistic boundaries; dramatic versus narrative modes. Writing practicum in: literary criticism; creative imitation; close reading; comparative analysis; translation practice or analysis. Readings of works by Chekhov, Oates, Chandler, Mansfield, Malcolm and others. Instructors: Apollonio. One course.

**325. Tolstoy and the Russian Experience.** ALP, CCI, CZ, EI  
Historical approach to Tolstoy's depictions of major societal and ethical issues (e.g., war, peace, marriage, death, religion, relationships). Culture of salons, print culture, censorship, and changing political climate. Central questions on the relationship of fiction and history: uses of fiction for understanding history and dangers of such an approach. Readings include selected fiction of Tolstoy, excerpts from journals and letters, and critical and historical accounts of nineteenth-century Russia. Instructor: Gheith. One course. C-L: History 277

**326. Tolstoy and Dostoevsky.** ALP, CCI  
Selected representative short works and most of the major novels of Leo Tolstoy and Fyodor Dostoevsky. The great issues and their vivid dramatization will be considered in the light of the author's irreconcilable approaches to the human condition, culture, artistic goals, and narrative technique. Not open to students who have taken this course as 89S or have taken Russian 175 or 323. Instructor: Staff. One course.

**327S. Chekhov.** ALP, CCI, W  

**328S. Bunin: Mystery of the Russian Soul and Metaphysical Memory.** ALP, CCI, FL  
Prose works of Ivan Bunin; emphasis on elements of tragedy, metaphysical representations, phenomenological novel and


351. Law and Constitutional Reform in Russia and the Former Soviet Union. CCI, CZ Russia’s efforts to create a constitutional government from a variety of perspectives, with particular emphasis on the political, historical, and legal aspects. Legal and constitutional changes in Russia compare or contrast with reforms in other transitional states. Instructor: Newcity. One course. C-L: Political Science 309

352. End of Russian Socialism: History of Perestroika. CCI, CZ, EI, SS One course. C-L: see History 282

353. Law, Culture, and the Russian Legal Tradition. CCI, CZ, EI, SS The development of the Russian legal tradition, with particular emphasis on the historical, ethical and cultural factors that have contributed to its emergence, comparing the Russian tradition with the Western legal tradition. How law, lawyers, and legal institutions have been portrayed and perceived in Russian popular culture, especially Russian literature, including the relationship between secular legal institutions and the Russian Orthodox Church. Taught in English. Instructor: Newcity. One course. C-L: Public Policy Studies 202, International Comparative Studies


356. Imperial Russia 1700-1917. CCI, CZ, SS Russian imperial history from Peter the Great to Bolshevik Revolution: 1700-1917. Focus on formation and governance of multiethnic and multiconfessional Russian empire. Traces expansion of land-locked city state (Muscovy) into world power ruling from Eastern Europe to Alaska. Questions implications of Russia’s world-power status. Examines institutions of governance that created this empire and held its various ethnic, religious and ideological groups together for centuries. Readings of English translations of works of Russian literature and historiographic analyses aimed at developing a sound grounding in Russian imperial history and culture. Instructor: Tuna. One course. C-L: Slavic and Eurasian Studies 356, History 275

361. Language Technologies and Culture Acquisition. R, SS, STS Acquisition and application of sophisticated information technologies for developing models of language systems and culture. (Computer technologies include PDF, Unicode, Linux operating systems digitizing, XML, HTML, metatagging.) Examination of the controversies concerning the use of technologies in the study and acquisition of languages and culture. Focus on the impact of such technologies on the educational systems of the United States and Europe. Team taught (Linguistics and Computer Sciences specialist.). One course. C-L: Linguistics 361, Information Science and Information Studies

362. Languages of the World. CCI, SS One course. C-L: see Linguistics 202; also C-L: Cultural Anthropology 202, International Comparative Studies 210

363. Theory and Practice of Translation. CCI, FL Detailed study of the American, European and Slavic scholarly literature on translation combined with close analysis of existing literary and journalistic translations and a program of practical translation projects from English to Russian and Russian to English. Instructor: Flath. One course.

370. Islam in Central Eurasia. CCI, CZ, SS History of Central Eurasian Muslims. Focus on diversity and cultural vivacity. Examines early appearance of Islam in the region, the evolution of Muslim religious and cultural institutions under governance of Chingissid, Timurid, Russian and Chinese empires, the encounter of Central Eurasian Muslims with European modernity and their experience during Soviet and Chinese socialist experiments. Instructor: Tuna. One course. C-L: Slavic and Eurasian Studies 370, History 209, Religion 378, Islamic Studies

371. Russian Fiction and Film. ALP, CCI Russia's turbulent history recounted through its literature and film. Short works by Russia's most famous authors (Dostoevsky, Tolstoy, Chekhov) as well as the writings of lesser-known, but equally important writers (Teffi, Vladimov); comparison of these written works with films made of the stories. Exploration of the main trends of Russian culture through its literature and film; focus on the differences between film and written narratives. Instructor: Gheith. One course.

371FS. Dimensions of Memory: Russian Fiction and Film. ALP, CCI This course is for Focus students only. Russia's turbulent history and role of memory in society recounted through its literature and film, including terrific recent film. Short works by Russia's most famous authors (Dostoevsky, Tolstoy, Chekhov) as well as the writings of lesser-known, important writers; comparison of written works with films made of the stories. Exploration of the main trends of Russian culture through its literature and film; focus on differences between film and written narrative and on visual art in recent film. Taught in English. Instructor: Gheith. One course.

372. Studies in Contemporary Russian Culture and Cognition. CCI, CZ, SS In-depth exposure to theories of culture and cognition with special attention to the study of Russian culture and Russian contributions to cognitive science and linguistics. Instructor: Andrews. One course.

373S. Russian Language and Culture through Film. CCI, FL, SS, STS Study of Russian cultural paradigms and constructs of self and other as demonstrated in Russia and Soviet films, primarily from 1960s to the present. Special attention given to the analysis of linguistic constructs and their cultural semantic content as well as comparative analyses of Soviet and Russian culture and Russian and European/American culture. Film and computer technology, as well as access to these technologies and their implementation, are a central part of the cultural context. Prerequisite: Russian 301S or equivalent or consent of instructor. Instructor: Maksimova. One course. C-L: Visual and Media Studies 317S

374S. Russian Language and Culture through Film II. ALP, CCI, FL, SS, STS Continuation of Russian 373S. Analysis of Russian cultural paradigms and linguistic issues through contemporary Russian and Soviet film. Film and computer technology, as well as access to these technologies and their implementation, are a central part of the cultural context. Prerequisite: Russian 301S or equivalent, or consent of instructor. Instructors: Maksimova. One course. C-L: Visual and Media Studies 319S

375. Russian Language and Culture through Theatre. ALP, CCI, FL, SS Study of Russian cultural paradigms and constructs of self and other as demonstrated in Russian and Soviet theatre (texts and performance), primarily from the 1920s to the present. Special attention given to the analysis of cultural, linguistic, and semantic constructs as well as comparative analyses of Soviet and Russian culture and Russian and European/American culture. Prerequisite: Russian 301S or equivalent or consent of instructor. Instructors: Maksimova, McAuliffe, and Viktorov. One course.

375S. Painting Russia Red: Early Soviet Culture, 1917-1934. ALP, CCI, CZ Through film, drama, fiction, memoir, and eyewitness accounts examines how citizens lived and artists responded to the bold, often traumatic experimentation of the early Soviet state. Topics include the impact of the Bolshevik and Stalinist revolutions on the public and private spheres, individual identity, and cultural production; the fashioning and
refashioning of gender roles; the cultivation of modern urban life; and the consequences of the Soviet campaign to master nature. Instructor: staff. One course. C-L: Art History 282S

376. Russian Language and Culture through Music. ALP, CCI, FL, SS Study of Russian cultural paradigms and constructs of self and other as demonstrated in Russian and Soviet folk, popular, and classical music (texts and performance), primarily twentieth century to the present. Special attention given to the analysis of cultural, linguistic, and semantic constructs as well as comparative analyses of Soviet and Russian culture and Russian and European/American culture. Prerequisite: Russian 301S or equivalent or consent of instructor. Instructors: Andrews and Mickiewicz. One course.


378S. Tennessee Williams and Anton Chekhov. ALP, CCI One course. C-L: see Theater Studies 350S


380S. Russian Culture in the Era of Terror: A Reexamination. ALP, CCI, CZ, R Readings from various sources, such as recently published diaries and literary works; film and other critical and historical material. The 'era of the great terror' (1934-39) seen through cultural production, its reception through everyday life narratives and contemporary ideology critique. Taught in English. Instructor: Gheith. One course. C-L: International Comparative Studies, Marxism and Society

381. Russian Revolutionary Cinema. CCI, CZ One course. C-L: see History 281; also C-L: Arts of the Moving Image 264, Marxism and Society

382. Art and Dissidence: The Films of Tarkovsky, Kubrick, Kurosawa, and Lynch. ALP, CCI, CZ Post-World War II Soviet and United States identity and culture explored through the lens of dissident film art; the use of inter-textuality and contrasting media to critique culture; film and visual art studied in relation to other modern, post-modern, positivist modes of expressing and constructing knowledge. Instructor: Gheith. One course. C-L: Visual and Media Studies 322, Arts of the Moving Image 265, Arts of the Moving Image

383S. The Actress: Celebrity and the Woman. ALP, CCI, CZ Explores through fiction, film, autobiographies, and biographies the significance and influence of the actress (on stage and screen) from eighteenth century to present day. Highlighted topics: actress's self-image and perception of her art; relationship between her public profession and private life; how she reflects/sets contemporary standards for beauty and lifestyle; how she provokes public debate over women's "appropriate" sexual, familial, professional, and public roles; her function as symbol/role model for her gender, race, nation. Includes Sarah Bernhardt's memoirs, Chekhov's The Seagull, Susan Sontag's In America, films All About Eve and Mommie Dearest. Taught in English. Instructor: Holmgren. One course. C-L: Women's Studies 260S, Theater Studies 323S

384. Movies of the World/The World of Movies. ALP, CCI, STS One course. C-L: see Literature 313; also C-L: German 363, Arts of the Moving Image 248, Islamic Studies

388S. Back in the U.S.S.R.: Everyday Soviet Culture, 1956-1989. ALP, CCI, CZ Draws on film, fiction, songs, oral histories, and anthropological studies to explore the cultural expressions, lifestyles, ethical values, and sociopolitical concerns of postwar/Cold War generations of Soviet citizens. Highlighted topics: youth culture, the new consumerism, coping with the Stalinist legacy, politically dissident art and actions, the retreat
into private life and nature, the rise of nationalisms. Instructor: Holmgren. One course. C-L: Cultural Anthropology 388S

399S. Global Russia. CCI, CZ, EI, SS Globalization of Russian culture as manifested in popular and academic cultural forms, including political ideologies, media and artistic texts, film, theater and television, markets, educational and legal institutions, historical and contemporary social movements. Examination of ethical issues in context of such topics as the relationship between church and state; the evolution of a totalitarian government into a democratic state; reproductive rights; the struggle against corruption in education, finance, police force; the role of censorship; views of citizenship, patriotism, valor, and treason; historical perspectives on prison camps, abuses of psychiatry. Instructor: Andrews. One course. C-L: Cultural Anthropology 399S, Public Policy Studies 201S

401. Advanced Russian. CCI, FL Intensive exposure to Russian word formation with an emphasis on the students' refinement of oral and written language skills. Development of discourse strategies and writing style through textual analysis, compositions and essays. Taught in Russian. Prerequisite: Russian 302S or consent of instructor. Instructor: Maksimova. One course. C-L: International Comparative Studies

402. Advanced Russian: Readings, Translation, and Syntax. CCI, FL Intensive reading and conversation with emphasis on the analysis of twentieth century Russian literary and culture texts. Russian media, including television and films. Prerequisite: Russian 401 or consent of instructor. Instructor: Maksimova. One course.

433S. Soviet Life through the Camera's Lens. ALP, CCI, CZ, FL An in-depth look at images and representations of Soviet life through Soviet and Russian film. Film texts include films shown in theatres, television films and forbidden films/films with a very limited distribution. Emphasis on the period from the mid-1970s through 1991. Course taught in Russian. Prerequisite: Russian 301S or equivalent or consent of instructor. Instructor: Maksimova. One course. C-L: Slavic and Eurasian Studies 433S

439S. Neuroscience and Multilingualism. NS, R, STS One course. C-L: see Linguistics 473S

490. Special Topics in Russian and American Culture. CCI Addresses the broad, interdisciplinary issue of identity and otherness while studying specifically what happens when the cultures of Russia and the United States come into contact. Taught in English. Instructor: Van Tuyl. One course. C-L: International Comparative Studies

490S. Special Topics in Russian and American Culture. Seminar version of Russian 490. Instructor: Staff. One course.

493. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.


495S. Senior Honors Seminar. R, W Introduction to methods of research and writing, including selection of thesis topics, preliminary research and organization, and writing of the thesis. In-depth analysis of Russian or other Slavic language texts required. Consent of the instructor or director of undergraduate studies required. Instructor: Staff. One course.

496S. Senior Honors Seminar. R, W Continuation of Russian 495S. Consent of the director of undergraduate studies required. Instructor: Staff. One course.

505. Semiotics of Culture. ALP, CCI, CZ, R The theory of literature, arts, ethnicity, modernity, and culture from a cross-cultural perspective. Texts include The theory of literature, arts, ethnicity, modernity, and culture from a cross-cultural perspective. Texts include the critical works of Lotman and the Tartu School, Bakhtin, Eco, Kristeva, Voloshinov, Medvedev, Barthes, Todorov, Jakobson, Ivanov, and Sebeok, as well as authentic culture texts from Slavic and European traditions. Research project required. Instructor: Andrews. One course. C-L: Linguistics 505

507. **Stylistic and Compositional Elements of Scholarly Russian. CCI, FL** Intensive study of Russian scholarly and scientific texts from a variety of disciplines, including biology, business, anthropology, economics, law, history, mathematics, physics, political sciences, sociology, psychology, linguistics, and literary criticism. Mastery of stylistic and discourse strategies. Analysis of cultural patterning in textual construction in the humanities, social and natural sciences. Taught in Russian. Prerequisite: Russian 204 or consent of instructor. Instructor: Maksimova. One course.

508. **Legal and Business Russian. CCI, CZ, EI, FL** Analysis of Russian language and culture in the area of legal studies and conducting business in or with Russia and other Commonwealth of Independent States countries. Primary materials include legal codes, law journals, contracts, advertising, financial documents, redactions of the Soviet and Russian constitutions (1905-present). Specific attention given to the analysis of evolution of property and ownership legislation, the workings of the legislative, executive and judicial branches of the Russian Federation government and contrastive analysis of Soviet, Russian (and where relevant Western) systems of jurisprudence. Taught in Russian. Prerequisite: Russian 302S or equivalent. Instructor: Andrews or Maksimova. One course.

509. **Theory and Methods of Comparative Linguistics. CCI, R, SS** Diachronic and synchronic approaches to the study of comparative linguistics in phonology, morphology, morphophonemics, syntax, and lexical categories in the context of the world's languages. Both Indo-European and non-Indo-European languages. Topics include theories of reconstruction, languages in contact, abductive processes, questions of linguistic typology and cultural-based approaches to the analytical study of human languages. Research project required. Instructor: Andrews. One course.

510. **Cognitive and Neurolinguistics. NS, R, SS** One course. C-L: see Linguistics 501; also C-L: Neuroscience 501S

511. **The Struggle for Justice and Faith: Russian Literature and Culture, 1855-1900. ALP, CCI** Considers how Russian writers, artists, and activists addressed 19th-century Russia's cursed questions of "who is to blame" and "what is to be done": specifically, how to reform an increasingly reactionary autocracy; how to bear witness for an impoverished underclass; what roles women should play in culture and politics; how to resist or improve on a soulless West; how to justify the existence of God in an unjust world. Course texts may include fiction and memoirs by Turgenev, Tolstoy, Dostoevsky, Kovalevskaya, Figner; works of fine art, drama, and opera. Instructor: staff. One course.

512. **Women and Russian Literature. ALP, CCI, FL** Issues of gender and society in women's writing in Russian from the eighteenth to the twentieth centuries. Both autobiographical writings and prose fiction. Discussions of whether Russian women's writings constitute a tradition and what role these works have played in Russian literature and culture. Taught in English. Readings in Russian. Instructor: Gheith. One course. C-L: International Comparative Studies, Women's Studies

513. **The Russian Novel. ALP, CCI, R** Close reading of Tolstoy's *Anna Karenina*, Dostoevsky's *Possessed*, Andrey Bely's *Petersburg*, Bulgakov's *Master and Margarita*, Nabokov's *The Gift*, and Makine's *Memoirs of My Russian Summers*. Discussions will focus on these representative writers' changing perceptions of, and responses to social and ethical issues and of creativity, itself, as the genre evolved in the modern times between the 1870s and now. Final research paper required and can include in-depth discussion of one of the works or the comparison of one or more aspects of several texts. Taught in English. Readings in Russian. Instructor: Mickiewicz. One course.
514. Russian Modernism. ALP, CCI Russian culture between the 1890s and the 1920s, including visual, musical, literary arts, and developments ranging from Neo-Christian mysticism, cosmovism, synthesis of the arts, and revolutionary activism. Focus on literary-philosophical thought of that period. Taught in English. Instructor: Mickiewicz. One course.

515S. The Russian Intelligentsia and the Origins of the Revolution. CZ, R One course. C-L: see History 535S; also C-L: International Comparative Studies


517. Russian Poetry. Focus on nineteenth and twentieth centuries, including the Golden Age and the Silver Age. Authors include Pushkin, Lermontov, Bely, Blok. Akhmatova, Tsvetaeva, Mandelshtam, Pasternak, and Mayakovksy. Taught in English or Russian, according to students' Russian language proficiency. Russian texts. Instructor: Van Tuyl. One course.


525. Tolstoy and the Russian Experience. ALP, CCI, CZ, EI Historical approach to Tolstoy's depictions of major societal and ethical issues (e.g., war, peace, marriage, death, religion, relationships). Culture of salons, print culture, censorship, and changing political climate. Central questions on the relationship of fiction and history: uses of fiction for understanding history and dangers of such an approach. Readings include selected fiction of Tolstoy, excerpts from journals and letters, and critical and historical accounts of nineteenth-century Russia. Similar to Russian 325 but requires additional assignments. Instructor: Gheith. One course.

526. Tolstoy. ALP, EI Introduction to life, works, and criticism, including Tolstoy's philosophical and ethical discourse. Readings include: War and Peace, Anna Karenina, the shorter fiction, dramatic works and essays. Taught in English. Readings in Russian. Instructor: Van Tuyl. One course.

527S. Chekhov. ALP, CCI Drama and prose works. Readings in Russian. Instructor: Flath. One course.


529S. Zamyatin. ALP, CCI, FL, R The novel We, short fiction, plays, and critical essays. In-depth textual analysis and study of Russian, American, and European criticism on Zamyatin, including his role in science fiction and anti-utopian literature in Russia and the West. Readings in Russian and English. Final research project required. Instructor: Andrews or Maksimova. One course.


551. Russian Stylistics and Conversation. ALP, CCI, FL, W Refinement of stylistic control and range in spoken and written Russian through intensive textual analysis, including literary (prose and poetry) texts, popular and scholarly journals, and film. Emphasis on fluent discursive skills, as well as development of expository prose style and rhetorical strategies. Taught in Russian. Prerequisite: Russian 401 and 402, or consent of instructor. Instructor: Maksimova. One course.
552. Russian Stylistics and Conversation. ALP, CCI, FL, W Continuation of Russian 551. Prerequisite: Russian 401 and 402, or consent of instructor. Instructor: Maksimova. Variable credit.

561S. Soviet Art after Stalin 1956-1991. ALP, CCI, CZ Dissident art, graphic design, fine arts and architecture in context of Cold War and decline of totalitarianism. Themes include Soviet artists and the west, and representation of women in times of flux. Open to juniors and seniors and graduate students who must follow a more comprehensive reading program and complete upper level assignments. Instructor: Kachurin. One course. C-L: Art History 544S

563. Theory and Practice of Translation. CCI, FL Detailed study of the American, European, and Slavic scholarly literature on translation combined with close analysis of existing literary and journalistic translations and a program of practical translation exercises and projects from English to Russian and Russian to English. Prerequisite: three years of Russian language study or consent of instructor. Instructor: Flath. One course.

564. Russian and Slavic Linguistics. SS Emphasis on synchronic linguistic theory focusing on East Slavic and Russian, but including diachronic approaches, and West and South Slavic languages. Focus on phonological, morphological, semantic and syntactic structures of Contemporary Standard Russian and modern Slavic languages. Instructor: Andrews. One course. C-L: Linguistics 564, Slavic and Eurasian Studies 564


619S. The Empire's Western Front: Russian and Polish Cultures. ALP, CCI, CZ Exploration through literature and film of the relationship between Russian and Polish cultures in the nineteenth and twentieth centuries when imperial Russia/Soviet Union figured as Poland's problematic "east," and subject state of Poland figured as Russia's problematic "west." Nineteenth century anti-tsarist uprisings, 1920 Soviet-Polish campaign, Poland's postwar sovietization, rise of Solidarity, construction of their respective national identity vis-a-vis an other imagined as foe or friend in fiction, drama, film, memoirs. Includes works by Pushkin and Dostoevsky; films by Andrzej Wajda. One course.

690S. Special Topics. CCI Seminars in advanced topics, designed for seniors and graduate students. Instructor: Staff. One course.

SERBIAN AND CROATIAN (SERBCRO)

490AS. Duke-Administered Study Abroad: Advanced Special Topics in Serbian and Croatian. CCI Topics differ by section. Instructor: Staff. One course.

TURKISH (TURKISH)

101. Elementary Turkish. FL Introduction to understanding, speaking, reading, and writing Turkish. Instructor: Staff. One course.

102. Elementary Turkish. FL Introduction to understanding, speaking, reading, and writing Turkish. Second half of Turkish 101, 102. Prerequisite: Turkish 101. Instructor: Staff. One course.

112. Accelerated Turkish Language and Culture I. FL Accelerated study of contemporary Turkish language and culture. Intended for students with no previous knowledge of Turkish: speaking, reading, writing, grammar and listening comprehension, and appropriate use of cultural constructs. Instructor: Goknar. One course. C-L: Islamic Studies

203. Intermediate Turkish. FL Classroom and laboratory practice in spoken and written patterns. Readings in contemporary literature. Prerequisites: Turkish 101 and 102, 14, or consent of instructor. Instructor: Staff. One course.
208FS. The Turks: From Ottoman Empire to European Union. ALP, CCI, CZ Readings in history, cultural studies, and literature to examine transformation in Ottoman identity during rise and decline of empire. Topics include Islam, art and architecture, historiography, and ethnicity. Social and political forces that led to Ottoman successes and failure, including religious tolerance, military power, and Capitulations. Interdisciplinary focus. Taught in English. Open only to students in the Focus Program. Instructor: Goknar. One course.

209FS. Geopolitics & Globalization: From Bosnia to Afghanistan. ALP, CCI, CZ Study of countries on the geographical periphery of the commonly defined Middle East: Bosnia, Turkey, Armenia, Chechnya, Iran, and Afghanistan. All of these countries have deep Middle Eastern ties and traditions, sizeable communities with Middle Eastern origins and connections, and recent histories of cultural and ethnic conflict and violence. Exploration of how the Middle Eastern components and histories in these conflicts have been distorted and obscured as the conflicts have been depicted through the lenses of U.S. or Soviet/Russian geopolitical interests. Instructor: Goknar. One course. C-L: Slavic and Eurasian Studies 209FS, Islamic Studies

213. Accelerated Turkish Language and Culture II. CZ, FL Continuation of Turkish 112. Intermediate level of proficiency in five areas, grammar, speaking, listening comprehension, reading and writing. Language taught embedded in cultural constructs. Prerequisite: Turkish 112 or equivalent. Instructor: Goknar. One course. C-L: Islamic Studies


279FS. Turkey: Muslim and Modern. CCI, CZ, SS Turkish history from the 18th century to the present. Turkey as strategic ally of the US; candidate for membership in European Union; first Muslim country to adopt democracy, secularism, and Westernization, and as political, cultural, and economic model for other Muslim countries. Focus on Turkish people’s encounter with modernity as Muslims; questions about contradictions and promises of Muslim and modern experience; informed consideration of Islam’s encounter with the West. No prerequisites. No knowledge of Turkish required. Instructor: Tuna. One course. C-L: Slavic and Eurasian Studies 279FS, Islamic Studies


301S. Contemporary Turkish Composition and Readings. CCI, FL Advanced grammar and syntax with intense composition component. Analytical readings in the original. Prerequisite: Turkish 70 or equivalent. Instructor: Staff. One course.

302S. Contemporary Turkish Composition and Readings. CCI, FL Continuation of Turkish 301S. Prerequisite: Turkish 301S. Instructor: Staff. One course.

305S. The Middle East through Historical Literature. ALP, CCI, CZ The Middle East as seen through historical fiction, travelogues, and memoir (and some film). Relationships between history and literature and identity. Secondary readings in imperialism, nationalism, violence, gender, and colonialism. One course. C-L: Asian & Middle Eastern Studies 387, Islamic Studies

307S. The City of Two Continents: Istanbul in Literature and Film. ALP, CCI, CZ, EI Presents Istanbul, a city located in both Europe and Asia, as a site of political identities in conflict. Overview of contemporary literature and film set in Istanbul. Studies ethical implications of textual and visual representations of various people and groups interacting in urban spaces. Addresses the reasons for Turkey's love-hate relationship with the Ottoman past and Europe. Historical background, modernity, identity, Islam, and cosomopolitanism. Knowledge of Turkish not required. Instructor: Goknar. One course. C-L: Slavic and Eurasian Studies 307S, Islamic Studies

308. The Turks: From Ottoman Empire to European Union. ALP, CCI, CZ, EI, R Readings in cultural history and literature to examine transformations in Turkish identity from the Ottoman era to EU accession. Discussion of the "gazi thesis", the "sultanate of women", religious tolerance (millets), conversion, modernity
Slavic and Eurasian Studies 613


342A. Between Europe and Asia: The Geopolitics of Istanbul From Occupation To Globalization. CCI, CZ, EI Istanbul as a site of historical, political and cultural interaction between Europe and Turkey. Approach framed by two important geopolitical events separated by nearly a century: first, the Allied occupation of Istanbul after WWI, which gave rise to the modern Middle East, and second, Turkey’s accession to the European Union, a contested transnational process that officially began in 2005. Examination of issues arising from Turkey’s separation from Europe as a Muslim country and its potential reintegration as a functioning democracy. Offered only in the Duke-in-Turkey study abroad program. Instructor: Goknar. One course. C-L: Asian & Middle Eastern Studies 389A, Slavic and Eurasian Studies 342A

343A. Gender, Politics and Space in the Middle East. CCI, CZ, EI Examination of relationships of gender, space, and politics in the modern Middle East. Considers how representations of the Middle East are gendered, analyzing such icons as the "veiled women" and "terrorist men" and the political implications of such representations. Topics include the emergence of new femininities, masculinities, and sexual identifications, social movements, and the paradoxes of Islamism, globalization, and neoliberalism in various settings. Offered only in the Duke-in-Turkey study abroad program. Instructor: Gokariksel. One course. C-L: Asian & Middle Eastern Studies 303A, Slavic and Eurasian Studies 343A, Political Science 213A

345. Orhan Pamuk and World Literature. ALP, CCI, CZ, EI Studies the novels and non-fiction of Nobel Laureate Orhan Pamuk as an introduction into ethics and politics of World Literature. Addresses social consequences of Pamuk's role as an intellectual-author who mediates between the national tradition and an international canon. Political implications of Sufism, cultural revolution, Orientalism, and post-colonialism. Secondary focus on cosmopolitan Islam and the Ottoman Empire. No prerequisites; taught in English. Instructor: Göknar. One course. C-L: Slavic and Eurasian Studies 345, Asian & Middle Eastern Studies 382, International Comparative Studies, Islamic Studies

371S. Tracing Muslim Identities in Eurasia. ALP, CCI, CZ Historical representations of Muslim people and communities in Eurasia through travelogues, fiction, memoir, and film in ethnically and religiously contested regions of Central Asia, the Ottoman Empire/Turkey, and the Balkans. Instructor: Goknar. One course. C-L: Asian & Middle Eastern Studies 289S, Islamic Studies

372. Representing the Middle East. CCI, CZ, SS One course. C-L: see Cultural Anthropology 251; also C-L: Asian & Middle Eastern Studies 345, History 213, International Comparative Studies 362, Visual and Media Studies 250, Islamic Studies, Policy Journalism and Media Studies

607S. The City of Two Continents: Istanbul in Literature and Film. ALP, CCI, CZ, EI Presents Istanbul, a city located in both Europe and Asia, as a site of political identities in conflict. Overview of contemporary literature and film set in Istanbul. Studies ethical implications of textual and visual representations of various people and groups interacting in urban spaces. Addresses the reasons for Turkey's love-hate relationship with the Ottoman past and Europe. Historical background, modernity, identity, Islam, and cosmopolitanism. Open to graduate students who must follow a comprehensive reading program and complete graduate-level assignments. Knowledge of Turkish not required. Instructor: Göktnar. One course. C-L: Islamic Studies

608. The Turks: From Ottoman Empire to European Union. CCI, R Reading and assessment of new scholarship on Ottoman culture, society, politics, and state. Supplemented by critical texts on historiography, identity, gender, religion, and orientalism. Topics include "gazi thesis," secular and Islamic law, "Kadi justice," everyday life, and role of women. Final research project with interdisciplinary focus. Instructor: Göktnar. One course. C-L: Islamic Studies

645. Orhan Pamuk and World Literature. ALP, CCI, CZ, EI Studies the novels and non-fiction of Nobel Laureate Orhan Pamuk as an introduction into ethics and politics of World Literature. Addresses social consequences of Pamuk's role as an intellectual-author who mediates between the national tradition and an
international canon. Political implications of Sufism, cultural revolution, Orientalism, and post-colonialism. Secondary focus on cosmopolitan Islam and the Ottoman Empire. Open to graduate students who must follow a comprehensive reading program and complete graduate-level assignments. No prerequisites; taught in English. Instructor: Göknar. One course.

690S. Special Topics. Seminars in advanced topics, designed for seniors and graduate students. Instructor: Staff. One course.

UKRAINIAN (UKRAIN)


490AS. Duke-Administered Study Abroad: Advanced Special Topics in Ukrainian. CCI Topics differ by section. Instructor: Staff. One course.

THE RUSSIAN MAJOR

Major Requirements. The Russian major requires a minimum of ten Russian courses in the department, eight of which must be at the 200-level or above. All majors must take the following courses: Russian 203, 204, 301S, 302S, 401, 402 or equivalent. Each major is additionally required to take four courses, of which at least three primarily focus on works of Russian culture (oral and written poetry and prose, drama, music, film, visual arts). The department urges students to consider coursework that would include at least one 500 level course.

THE SLAVIC AND EURASIAN STUDIES MAJOR

The Slavic and Eurasian Studies major is designed to enable students to gain knowledge about Slavic and Eurasian languages and cultures as well as the interrelated histories and contemporary interactions between these cultures.

Major Requirements. To earn a major in Slavic and Eurasian Studies, students must complete ten (10) courses, eight (8) of which must be at the 200-level or above. Required courses are one (1) approved introductory course to the major (including, but not restricted to, Russian 350, Russian 370, Slavic and Eurasian Studies 373S, Slavic and Eurasian Studies 386S); one (1) capstone seminar (Slavic and Eurasian Studies 423S) in their junior or senior year, which includes a significant research component; four (4) language courses above the 102 level for Polish and Turkish (through 302S) OR four (4) language courses above the 203-204 level for Russian; and four (4) content (elective) courses on Slavic and Eurasian Studies with no more than two of these on an exclusively Slavic topic. All 300-level and above courses with the designators Polish, Turkish, and Uzbek may count toward the major. The department of Slavic and Eurasian Studies also offers Romanian and Persian on a regular basis, and Georgian on a semi-regular basis. These languages can be counted as fulfilling the language requirement with prior approval from the director of undergraduate studies. To determine if specific courses meet requirements for the major, students should consult with the director of undergraduate studies in the Slavic and Eurasian Studies Department.

Students are encouraged to study abroad in a country that is related to the geographical area covered by the major.

The Slavic and Eurasian Studies Department regularly offers a Focus cluster, "Between Europe and Asia: Explorations in Culture, Law, and Cognitive Science," in the fall semester and two Focus seminars from this cluster may count toward the Slavic and Eurasian Studies major.

Departmental Graduation with Distinction

The department offers work leading to Graduation with Distinction. See the section on honors in this bulletin and the departmental director of undergraduate studies.
THE MINOR

Minors are offered in Russian Culture and Language, Russian Literature in Translation, and Turkish Language and Culture.

**Russian Culture and Language**

*Requirements*: Five courses, three of which must be at the 200-level or above. At least two courses must be in the Russian language.

**Russian Literature in Translation**

*Requirements*: Five courses, three of which must be at the 200-level.

**Turkish Language and Culture**

*Requirements*: Five courses, three of which must be at the 200-level or above. Two courses must be in the Turkish language.

**Sociology (SOCIOL)**

Professor Bonilla-Silva, Chair; Associate Professor of the Practice Bach, Director of Undergraduate Studies; Professors Bonilla-Silva, Burton, Chaves, George, Gereffi, Gao, Keister, Land, Moody, O’Rand, Smith-Lovin, Spenner; Associate Professors Brady, Healy, Read; Assistant Professors Bradshaw, Vaisey; Professors Emeriti Lin, Maddox, McPherson, Preiss, Simpson, Smith, Tiryakian, and Wilson; Professor of the Practice Merkx; Associate Professor of the Practice Bach; *Secondary Appointments and Affiliated Faculty*: Professors Cook (public policy), Frankenberg (public policy), James (public policy), Lewin (Fuqua), O’Barr (cultural anthropology), Yi (medicine); Associate Professors Baker (cultural anthropology), Crichlow (African and African American studies), Cummings (Fuqua), Gold (psychiatry and aging center) Hasso (women’s studies), Merli (public policy); Research Professors Stallard and Yashin; Associate Research Professor Shanahan (ethics); Visiting Professors Jones and Reeves; Visiting Assistant Professor Hovsepian; Visiting Lecturers Grody and Nordgren

A major or a minor is available in this department.

Sociology combines an appreciation of human beings' capacity for self-realization with a scientific understanding of the causes and consequences of their social behavior. Each course aims to develop both the analytical and critical skills necessary for understanding and evaluating social institutions and social change. Emphasis is upon contemporary research and the use of sociological data in tackling social problems. Active involvement in the learning process is fostered through seminars, independent study, honors work, and internships.

**89S. First-Year Seminar.** Topics vary each semester offered. Instructor: Staff. One course.

**90A. Duke-Administered Study Abroad: Special Topics in Sociology. CCI** Topics differ by section. Instructor: Staff. One course.

**108. Introduction to Canada. SS** One course. C-L: see Canadian Studies 101; also C-L: History 128

**110. Sociological Inquiry. SS** Structure and dynamics of groups, organizations, and institutions; social behavior over the life cycle; social control and deviance; population and social ecology; formation and change of societies. Instructor: Staff. One course.

**111. Contemporary Social Problems. CCI, SS** Comparative analysis of social problems across historical periods, nations, and social groups by gender, race/ethnicity, social class, and culture. Major topics: deviant behavior, social conflict and inequality, human progress and social change. Emphasis on research issues, especially how and to what degree the understanding of social problems is a direct result of the inductive processes used to define social problems and the research methods and procedures used to investigate them. Instructor: Bach or Land. One course. C-L: Children in Contemporary Society

**160. Advertising and Society: Global Perspective. CCI, SS** One course. C-L: see Cultural Anthropology 170; also C-L: Linguistics 170, Visual and Media Studies 170, International Comparative Studies, Arts of the

176FS. Theoretical and Statistical Modelling of Networks, Groups, and Identity. CCI, R, SS How identity is formed by relationships and groups in which we are embedded. How cultural meaning influences social interactions. Students learn a formal, mathematical theory that addresses these questions. Group and individual research projects using computer-assisted data collection or analysis of the General Social Survey network module. Open to Focus students only. Instructor: Smith-Lovin. One course.

177FS. Muslims in the West: Middle East Diasporas. CCI, SS Course will explore Muslim migration and assimilation from the Middle East to the West, primarily to the United States. Explore and compare cultural assimilation of Muslims in the UK and the US as well as how these countries and their Muslim communities respond and relate to events in the Middle East. Instructor: Read. One course.

178FS. The Limits of Obligation? World Refugee Policy and International Law. CCI, EI, SS 35 million refugees and internally displaced persons in the world. A comparative historical overview of international refugee policy and law dealing with this growing population. Students will grapple with the ethical challenges posed by humanitarian intervention on behalf of refugees and the often unintended consequences of such policies. Students examine case studies to determine how different models for dealing with refugee resettlement affect the life chances of refugees. Service learning course. Students will work with refugees from Bhutan, Burma and Iraq recently resettled in Durham. Instructor consent required. Instructor: Shanahan. One course. C-L: Study of Ethics 199FS

179FS. The Entrepreneurial Path. SS Overview of the important elements of entrepreneurship, including the players involved, social structures, business processes, and economic issues. Topics covered include the historical evolution of entrepreneurship, review of the key players that make entrepreneurship flourish (venture capitalists, incubators, etc.), the social and psychological characteristics of entrepreneurs, the fundamental business elements of entrepreneurship, including analyzing markets, creating a business plan, understanding strategy, and financial issues associated with start-ups. Instructor: Jones. One course.

180S. Society, the Self, and the Natural World. CCI, EI, SS Exploration of changing and/or contrasting perceptions, studying how our perceptions are conditioned by the times we live in and reigning assumptions of our societies. Three course components taught by faculty in each discipline including: exploration of perceptions of the self through the arts, the changing role of women in society; and examination of science and society conflicts. Open only to Baldwin Scholars. Consent of instructor required. Instructor: Lisker. One course.

181FS. Contemporary American Society. CCI, R, SS Relationships among voluntary association, ideology, and identity. Theoretical focus on ecological models borrowed from biology to increase understanding of how voluntary associations grow, decline, and change their composition (and therefore their ability to integrate society) and how associations lead to personal identity, belief systems and even cultural tastes. Analysis of data from a national survey of voluntary memberships and network ties, from the first representative survey of church congregations, and from a study of identities, actions and emotion. Open only to students in the Focus Program. Instructor: Smith-Lovin or staff. One course.

182FS. Biology and Society. R, SS, STS How societies emerge and develop. Diverse evolutionary theories, such as sociobiology, the evolution of cooperation, the demographic imperative, technological determinism and genetic determinism, that have been used to explain the origins and changes of social structures like the family, the state, and the world system. Student research into traditional and contemporary global societies. Open only to students enrolled in the Focus Program. Instructor: O’Rand. One course.
183FS. A Single Europe? Dreams and Reality. CCI, EI, R, SS The cultural effects of European integration and how European Union policies affect collective identities in Europe. Topics include: emergence of European identity, regionalism, nationalism/post-nationalism, immigration and inter-group violence. Open only to students in the Focus Program. Instructor: Staff. One course.

184FS. U.S. Latinos in Sociological Perspective: Immigration and Adaptation. CCI, SS The sociological aspects of Latin American immigration to the United States. The historical origins of the migration flow as well as its current characteristics. Problems that immigrants face as they struggle to incorporate into United States society, the impact that migration has on the native-born population of the United States particularly other minority groups, and the impact on the sending countries and communities. The changes that migration engenders in individuals and families, such as its effect on social mobility and gender relations; the heterogeneity of the Latino population. Open only to students in the Focus Program. Instructor: Staff. One course.

185FS. Race Relations in the Modern South. CCI, SS The effects of law on racial dynamics, the changing meaning of race in popular and policy discourse, and the impact of recent immigration, particularly Latino immigration, on historical patterns of Southern race relations. Issues addressed through critical reading of a set of historical monographs and the analysis of primary data on racial inequality, racial segregation and racial collective violence. Open only to students in the Focus Program. Consent of instructor required. Instructor: Staff. One course.

186FS. Gender, Poverty, and Health. EI, SS Examines interconnections among gender, poverty, and health (considers how race and ethnicity may intersect with these as well). Adopts global perspective with focus on US and the global south (low and middle income countries). Discusses frameworks for understanding health as well as in depth case studies of particular health areas. Major focus on HIV/AIDS, but other health issues addressed include: drug use, violence, work-related health, and reproduction. Addresses the social basis of health science and considers the policy implications of all of these issues. Open only to students in the Focus Program. Instructor: Blankenship. One course. C-L: Global Health Certificate

187FS. Freedom and American Constitutional Law. CCI, EI, SS Examination of how the idea of freedom is translated into the American legal system. Emphasis on understanding the American legal framework and legal reasoning. Reading will include major Supreme Court opinions. Focus on legal rights in education and race. Opportunities to work with Civil Rights attorneys. Open only to students in the Focus Program. Instructor consent required. Instructor: Staff. One course.

188FS. Population, Modernization, and Culture Wars. CCI, R, SS Focus on conducting quantitative research on variations in values and beliefs across societies. Values examined include individual autonomy, self-expression, gender equality, democracy and beliefs attached to major religions. Group and individual research projects utilize the World Values Surveys linked to economic and demographic indicators. Open to Focus students only. Instructor: O’Rand. One course.

189FS. Psychosocial Development of the Mind Through the Life Course. CCI, SS One course. C-L: see Psychology 189FS

195. Comparative Approaches to Global Issues. CCI, CZ, SS One course. C-L: see International Comparative Studies 195; also C-L: Cultural Anthropology 195, History 103, Political Science 110, Religion 195, Marxism and Society

201. Sport As Performance. ALP, CCI, EI, SS One course. C-L: see Theater Studies 201; also C-L: Cultural Anthropology 209

210. A-E. Comparative Sociology: Selected Areas. CCI, SS Comparative studies of selected areas of the world, considering differences and similarities in culture and communication, family, law and social control, urban forms and the organization of work. Areas vary each semester offered and are designated by letter. A. Africa B. Asia C. Europe D. Latin America E. Cross-Regional Instructor: Staff. One course. C-L: International Comparative Studies, Markets and Management Studies
211. Wealth, Power, and Inequality. CCI, SS The nature, forms, and socioeconomic bases of inequality. Age, gender, race, ethnicity, class, region, and family as dimensions of inequality. Variations in the structure of inequality over time and across nations. How educational institutions, economic development, work institutions, and state welfare programs affect the shape of inequality. Social inequality and social mobility. Instructor: Keister or O’Rand. One course. C-L: Women's Studies

212. Gender, Poverty, and Health. SS One course. C-L: see Global Health Certificate 212

214. Cybernetworks and the Global Village. CCI, CZ, SS, STS Development and trends in internets as they affect the formation and organization of emerging social structures. Trends in both new, transnational social orders and segmenting of existing social orders. Multiple societies and the extent to which inequality in access to and participation in the cybernetworks reflects cultural, social, economic, and political implications. Emphasis on special research designs, methodologies (network analysis), and data sources necessary for research on cybernetworks. Prerequisite: internet experience. Instructor: Staff. One course. C-L: Information Science and Information Studies, Markets and Management Studies, Policy Journalism and Media

215. Environment as Community. SS Examination of linkages in both directions between community (family, neighborhood) and responsible environmental behavior. Includes on-site collaboration with a local neighborhood having explicit environmental goals. Application of basic qualitative research methods, including participant observation, personal interview, and content analysis. Instructor: Clark. One course. C-L: Environment 221

216S. Partnering and Parenting: An Interdisciplinary Approach to the Study of Human Relationships. CCI, EI, NS, SS, STS One course. C-L: see Evolutionary Anthropology 240S; also C-L: Study of Ethics 272S

217. Childhood in Social Perspective. SS, STS Social forces that have altered the role of children in society, with attention to changes in the population, labor force, community, family and kinship, schools, laws, government, and recreational and religious organizations. Focus on the United States, with some cross-cultural comparisons. Primary emphasis on how changes in the world of childhood have emerged as offshoots of scientific and technological innovations related to population dynamics, scientific and professional upgrading of work skills, narrowing of social and geographical distances, and legal and government responses to these changes. Analysis of data using quantitative methods. Instructor: Staff. One course. C-L: Children in Contemporary Society


219. Juvenile Delinquency. CCI, EI, SS The concept and measurement of delinquency and status offending; trends and patterns in the delinquency rate. Theoretical models used to explain the onset of delinquent behavior; environmental and individual correlates of delinquency such as gender, race, and social class; influence of families, delinquent subcultures, gangs, schools, and drugs; history of juvenile justice and the philosophy and practice of today's juvenile justice system; legal and ethical issues such as major court decisions on juveniles' rights, the use of detention, and transfer to adult court; models of sentencing, juvenile incarceration, and community treatment programs and their efficacy. Instructor: Land or staff. One course. C-L: Children in Contemporary Society

220. Causes of Crime. EI, SS The field of criminology and its most basic concepts: the definition of crime, the component areas of criminology, the history of criminology, criminological research methods, and the ethical issues that confront the field. The nature, extent, and patterns of crime, including victimization. Evaluation of criminological theories, including: biological, psychological, sociological, and cultural deviance theories; criminal behavior including violent crime, property crime, white-collar and organized crime, public order crimes, sex offenses, and substance abuse; the justice process, including police, courts, and corrections; the policy implications of criminological research. Instructor: Land or staff. One course.

222. Punishment and Society. CCI, EI, SS The history, philosophy, and procedures of punishment and treatment. The development of the penal system; the structure and operation of "total institutions" such as prisons and hospitals; the various sanctions. The issues and problems confronting both inmates and staff in contemporary prisons and concerns related to the imprisonment of women; the rights of prisoners and crime victims, the release of offenders and their return to society; current punishment and treatment of those defined as criminals within the context of what goal is intended; comparison of punishment and treatment procedures or programs in different parts of the world with the United States. Instructor: Staff. One course.

224. Human Development (D). CCI, EI, R, SS One course. C-L: see Human Development 224; also C-L: Psychology 235

226. The Challenges of Development. CCI, EI, SS Diverse perspectives on economic development and theories concerning the role of transnational corporations and international financial institutions (for example, World Bank) in developing nations, assessed with the aid of sociological and economic data. Comparison of different countries and world regions in terms of their historical trajectories, development strategies and current challenges in economic and social development, broadly conceived in terms of material circumstances, political economies, and quality of life. Instructor: Gereffi or staff. One course. C-L: International Comparative Studies, Latin American Studies, Markets and Management Studies, Marxism and Society

227. The Latino Population in the United States. CCI, SS Focuses on the economic and sociological aspects of Hispanic immigration and assimilation in the United States. Topics include: construction of Hispanic identity, the history of US Hispanic immigration, Hispanic family patterns and household structure, Hispanic educational attainment, Hispanic incorporation into the US labor force, earnings and economic well-being among Hispanic-origin groups, assimilation and the second generation. Instructor: Staff. One course. C-L: Children in Contemporary Society

228S. Visual Research and the American Dream. ALP, R, SS One course. C-L: see Documentary Studies 221S; also C-L: Visual and Media Studies 217S

229. Gender, Work, and Organizations. CCI, SS Research and theories on gender issues in the work organization. The socio-historical causes of gender segregation in the workplace and the contemporary consequences for wages and occupational status. Organizational and governmental work and family policies. Case studies of specific work organizations with gender-related problems are utilized in group projects and presentations. C-L: Markets and Management Studies. Instructor: Bach or staff. One course. C-L: Women's Studies 241, Markets and Management Studies

260. Psychosocial Aspects of Human Development (D). CCI, EI, SS One course. C-L: see Human Development 260; also C-L: Psychology 236, Ethics Courses Offered Through Other Departments

262. Adulthood and Aging. EI, SS Sociological and psychological perspectives on aging, from adolescence through old age and death; demography of human aging; social problems caused by increased longevity; policy issues. Instructor: Gold and George. One course.

263. Aging and Health. EI, SS, W Illness and health care utilization among the elderly, comparison to other populations, gender and race differences, medicare and medicaid, individual adjustment to aging and illness, social support for sick elderly, the decision to institutionalize, policy debate over euthanasia. Required participation in service learning. Instructor: George or Gold. One course.

290A. Duke-Administered Study Abroad: Advanced Special Topics in Sociology. CCI, SS Instructor: Staff. One course.

290S. Seminar in Special Topics. Instructor: Staff. One course.

291. Independent Study for Nonmajors. Individual research and reading in a field of special interest, under the supervision of faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to qualified juniors and seniors. Consent of instructor and Director of Markets and Management Studies. Does not count toward the Sociology major. Instructor: Staff. One course.

293. Research Independent Study for Non-Majors. Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper containing significant analysis and interpretation of a previously approved topic. Open to qualified juniors and seniors. Consent of instructor and Director of Markets and Management Studies. Does not count toward the Sociology major. Instructor: Staff. One course.

316. Comparative Race and Ethnic Studies. CCI, EI, R, SS The social, legal and cultural construction of racial and ethnic hierarchies in a comparative international context with the United States and the United Kingdom of central analytical concern. Racial formation and racial segregation in specific historical and national contexts including the normative case of the Anglo-Saxon core in the United States and how its dominance has led to patterns of ethnic antagonism and discrimination; the historical context of racial stereotypes and their representation in various mediums. Social justice movements and public policies designed to challenge racial and ethnic domination including controversial topics such as "positive discrimination" (United Kingdom) and Affirmative Action (United States/South Africa). May include comparative case studies from India, South Africa, Brazil, and continental Europe. Instructor: Bonilla-Silva. One course. C-L: African and African American Studies 246, Children in Contemporary Society, Latino/a Studies in the Global South, Marxism and Society

331. Women at Work: Gendered Experience of Corporate Life. CCI, SS, STS One course. C-L: see Women's Studies 221

332. Methods of Social Research. R, SS, W Principles of social research, design of sociological studies, sampling, and data collection with special attention to survey techniques. Instructor: Bradshaw or Brady. One course.

333. Quantitative Analysis of Sociological Data. QS, SS Introduction to quantitative analysis in sociological research, including principles of research design and the use of empirical evidence, particularly from social surveys. Descriptive and inferential statistics, contingency table analysis, and regression analysis. Emphasis on analysis of data, interpretation and presentation of results. Not open to students who have taken another 200-level (or above) statistics course. Course restricted to first and second Sociology majors. Instructor: Bradshaw or staff. One course.

336. Urban Education. CCI, SS One course. C-L: see African and African American Studies 381; also C-L: Education 347, Children in Contemporary Society

338. Theory and Society. CCI, SS, W Selective survey of major classical and modern social theorists from the Enlightenment to the present. Attention to theories seeking to follow models of the natural sciences and those seeking a more critical and interpretive understanding of modern society. Sociological theory in relation to other modern currents, such as conservatism, socialism, existentialism, anti-colonialism, feminism, postmodernism. Instructor: Healy, Merkx, or Moody. One course.

340. Taboo Markets. EI, SS Exploration of the social organization of taboo, stigmatized, or otherwise morally controversial markets. Examples include markets for alcohol and other drugs, sex work, gambling, adoption, domestic labor, blood, organs, eggs, sperm, genetic material, viaticals, and pollution rights. Examination of both empirical and normative studies of such exchanges, together with debates surrounding the creation, expansion, and regulation of these markets. Includes consideration of broader arguments about the scope and
limits (if any) of the market as a social institution, and its relationship to other modes of exchange. Instructor: Healy. One course. C-L: Study of Ethics 280

342D. Organizations and Global Competitiveness. CCI, R, SS, STS
Competition among national economies as understood in the context of social factors such as ethnicity, kinship, gender, and education, with a special emphasis on how technological change is reshaping the social, political, and economic bases of international competitiveness. Global industries in various regions of the world. Two research papers required, at least one of which involves the analysis of international trade data. Instructor: Gereffi. One course. C-L: International Comparative Studies, Markets and Management Studies

344. Technology and Organizational Environments. CCI, R, SS, STS
How organizations (governments, private corporations, and non-profit organizations) are affected by the social, technological, and cultural environments in which they operate. Emphasis on how United States and Japanese cultures generate different modes of organization and differing environmental facilitators and obstacles. Competitive strategies (for example, mergers and takeovers) and the impact of technology on organizational structures (for example, the rapid diffusion of information technology). Research paper required, using either quantitative evidence or a case study approach. Instructor: Gao or staff. One course. C-L: Markets and Management Studies

The changing configuration of global capitalism, with emphasis on comparing global regions of North America, Latin America, Europe, Africa, and Asia. The internal dynamics of these regions, including the development strategies of selected nations, interregional comparisons (for example, regional divisions of labor, state-society relationships, the nature of their business systems, quality of life issues). Research paper required. Instructor: Gereffi or Hovsepian. One course. C-L: International Comparative Studies, Islamic Studies, Markets and Management Studies

348. Secularization and Modernity: Cross-Disciplinary Readings 1750-1914. ALP, CCI, CZ, EI, R One course. C-L: see English 285; also C-L: Political Science 374, German 376, Romance Studies 360, Literature 243

349. Sexuality and Society. CCI, EI, R, SS
Sociocultural factors affecting sexual behavior. Changing beliefs about sex; how sexual knowledge is socially learned and sexual identities formed; the relation between power and sex; control over sexual expression. Required participation in service learning. Instructor: Bach or staff. One course. C-L: Study of Sexualities 229, Women's Studies

350. The Changing American Family. CCI, R, SS
The American family, its composition, functions, organization and perceived importance in the lives of people and in society. Changes -- especially the separation of marriage, childbearing, and child rearing -- examined with a view toward understanding the social forces behind them and the personal and social problems that arise in conjunction with the changes. Comparisons across social classes and ethnic and racial groups at different historic periods to show variations in their susceptibility to forces of change. Instructor: Burton or staff. One course. C-L: Children in Contemporary Society, Women's Studies

351S. Sociology of Religion. CCI, R, SS
Classic social scientific answers to questions such as: the nature and origin of religion; its fate in modern societies. How social context shapes religious belief and practice, and how religion influences people, institutions, and societies. Attention paid to continuity and change in American religion. Instructor: Chaves. One course. C-L: Religion 285S

352S. Sociology through Photography. ALP, SS One course. C-L: see Documentary Studies 227S; also C-L: Visual and Media Studies 218S

353. Sport and Society. EI, R, SS
Sport roles and sport institutions examined using the sociological perspective to help explain different patterns of involvement in sport, the social forces that have created sports organizations, and the consequences of sports participation. The ethical consequences of the modern pressures on athletes in schools and colleges and the commercialism of professional sport. Research paper required. Instructor: Staff. One course.

355. Organizations and Management. SS, STS Dimensions and aspects of modern organizations and concepts and tools for analyzing them. Special attention to the impact of changing social and technological environments on the evolution of organizational structures and strategies and on issues related to business ethics. The structure and operation of organizations; how organizations are managed by analyzing processes of organizational decision making; business case studies as illustrative of the concepts and the analytical tools. Instructor: Healy or Keister. One course. C-L: Markets and Management Studies, Women's Studies

356. Global Contexts of Science and Technology. CCI, R, SS, STS National variations in the structure of scientific systems, and their consequences for the production and application of scientific knowledge. Particular attention to how these differences are shaped by cultural values and social institutions based on those values (politics, economics, education). Focus on recent developments in the biomedical sciences, such as genetic engineering and bio-ecology, and how they are incorporated into the scientific agendas of different cultures. Requires research paper addressing cross-cultural comparisons in the context of a selected scientific principle or technological development. Instructor: O’Rand. One course. C-L: Information Science and Information Studies, Markets and Management Studies

357. Organizations and Management in Global Capital Markets: an Ethical Perspective. EI, R, SS, STS Analysis of financial, political and social consequences of business decisions made by financial institutions. How managers and corporations assess, envision and manage interactions with general, local, internal and natural environments within the current organizational structures of business, with focus on ethical perspectives. Examples and case studies of current decisions made by financial institutions will enhance critical thinking and reasoning to evaluate the process and consequences of these decisions. Offered only in the Duke in New York spring semester program. Instructor: Veraldi. One course. C-L: Markets and Management Studies

358. Markets and Marketing. CCI, R, SS, STS Markets as systems of social exchange: their organization and development with special reference to the role of technological change in market evolution in various parts of the industrialized world. Sociological analysis of contemporary marketing including cross-national comparisons and the role of internet technologies; researching and preparing a marketing plan. Coverage of marketing includes attention to issues of values and ethics. Instructor: Spenner or Reeves. One course. C-L: Markets and Management Studies


361. Social Determinants of U.S. Health Disparities. SS Introduction to how social factors influence health and well-being, with a particular focus on contemporary U.S. society. Topics include obesity, aging, socioeconomic disadvantage, access to health insurance, public health systems, the role of the media, and racial/ethnic and gender inequalities. The course will provide descriptive assessments of health inequalities and analytic examinations of the mechanisms through which social factors affect health. Instructor: Read. One course. C-L: Global Health Certificate 340, Global Health

365. Business Behaviors. SS, STS, W Behavioral differences due to complex interaction between biology, psychology, social environment. Consequences of "biopsychosocial" differences (risk preferences, emotions,
cooperative behavior, intelligence, educational attainment, economic success, civic engagement, leadership skills), for economic/business behaviors examined. Impact of knowledge of gene-environment interplay. Instructor: Bradshaw. One course. C-L: Markets and Management Studies

366. Politics and Markets in the Global Economy. SS Comparison of the politics and markets of countries and regions throughout the global economy. Exploration of sociological theories of markets and market formation and sociological theories of states and state formation studied through prominent debates and literatures in political sociology and economic sociology, as well as some material in the sociology of inequality and globalization. Instructor: Brady. One course.

367. The Social Bases of Politics. SS Political power, state action, political mobilization, and policy formation seen through the lens of sociological theory and research. Instructor: Staff. One course.

368. Business and Politics in American Society. EI, R, SS The impact of business on American politics. Theories of political pluralism, state autonomy, capitalist imperatives, and elite domination; sources of corporate political community including shared interest, social class, and interlocking directives; a venues of influence including campaign contributions, lobbying, think tanks, advisory boards, and social networks. Development of research skill through team-based projects. Discussion and debate of ethical implications for business and policy leaders of the future. Instructor: Staff. One course. C-L: Markets and Management Studies

371. Comparative Health Care Systems. CCI, EI, SS One course. C-L: see Public Policy Studies 335; also C-L: Political Science 355, Canadian Studies, International Comparative Studies, Global Health, Ethics Courses Offered Through Other Departments


373. Social Conflict and Social Movements. CCI, EI, R, SS Theories and current research in the United States and Europe on a variety of social movements and cycles of social protest, such as student movements, civil rights, liberation movements, secession movements in Western and non-Western countries, ethnic nationalism, fundamentalism, the women's movement, and the environmental movement. The values of social movements that are in opposition to the prevalent norms and institutions of society. Research paper required. Instructor: Staff. One course.


390. Special Topics in Sociology. Topics vary each semester. Instructor: Staff. One course.

390S. Seminar in Special Topics. Instructor: Staff. One course.

391. Independent Study. Directed reading or individual projects under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

430S. Women and the Professions. EI, R, SS, W One course. C-L: see Education 430S; also C-L: Ethics Courses Offered Through Other Departments

471S. Language and Politics: Eurasian Perspectives. CCI, SS One course. C-L: see Linguistics 471S; also C-L: Slavic and Eurasian Studies 484S, Public Policy Studies 208S

472S. Cold War Texts: Politics, Propaganda and Pop Culture. ALP, CCI, EI, SS One course. C-L: see Linguistics 472S; also C-L: Slavic and Eurasian Studies 434S, Public Policy Studies 213S

480S. Sociology of the Middle East. CCI, SS Sociological themes with reference to the transnational Arab Middle East that include culture, the family, social inequality, gender, socialization, development and
underdevelopment, labor, migration and citizenship, political Islam, and social change. The issue of the Palestinians, often made central in the discourse on the Middle East. Instructor: Hovsepian. One course. C-L: Islamic Studies

481S. Race, Rock, and Religion: Culture Wars in America. CCI, R, SS Research approaches to contemporary cultural and political polarization in America. (Who likes hip-hop; who likes operas? Are these different people? Who goes to church? Who believes in evolution?) Patterns and social forces that unite a people, social forces that divide it; how social positions determine beliefs and cultural preferences. Instructor: Smith-Lovin. One course.

482S. Gender, Labor, and Globalization. CCI, R, SS Construction of gender influences, the incorporation of women into the global workforce, relocation of production under globalization influence, interconnections between work and gender. Instructor: Hovsepian. One course. C-L: Islamic Studies

483S. Cybernetworks. CCI, R, SS The rapid, global growth of social relations and social networks on the Internet. Topics include the principles of interpersonal relations and social networks; the rise and development of the cyber space and of cybernetworks (social networks in the cyber space); types of cybernetworks (general, specialized); cybernetworks and other social domains (e.g., economics, politics); cybernetworks and interpersonal networks; cybernetworks, globalization, and localization; the future of cybernetworks. Instructor: Lin. One course.

484S. Poverty Across Space and Race. CCI, R, SS Family dynamics in poor communities in three rural and three urban regions in the United States. Students required to design a project, collect and analyze data, and write results resulting in a research paper. Instructor: Staff. One course.

490. Special Topics in Sociology. One course.

490S. Seminar In Special Topics. Instructor: Staff. One course.

490S-1. Research Seminar: Special Topics. R, SS Directed research on a particular theme in a collaborative workshop using basic skills to assist in designing, carrying out, and writing up original research. A substantive paper with significant analysis and interpretation required. Themes vary semester to semester. Instructor: Staff. One course.

495S. Sociology Honors Seminar I. R, SS Honors seminar for senior sociology major. Intensive research experience including topic selection, research design, data collection and analysis resulting in substantial, original paper. Research guidance and support provided by instructor and faculty advisor. Consent of instructor required. Instructor: Staff. One course.

496S. Sociology Honors Seminar I. SS, W Continuation of Sociology 495S. Consent of instructor required. Instructor: Staff. One course.

499S. Sociology Internship. EI, R Open only to sociology majors and minors. Requires eight hours per week working in a local business or community organization; specific internship placement arranged with instructor to meet student's interest. Students reflect on their experiences in Blackboard posts and seminar discussions. Topics include sociological issues related to organizations, work, diversity and inequality. Research paper required. Instructor: Bach or staff. One course.


542S. Understanding Ethical Crisis in Organizations. EI, R, SS One course. C-L: see Study of Ethics 562S; also C-L: Political Science 502S, Public Policy Studies 558S

594S. Cultural (Con)Fusions of Asians and Africans. CCI, CZ, SS One course. C-L: see African and African American Studies 594S; also C-L: Cultural Anthropology 594S, Latin American Studies 594S

634S. Making Social Policy. R, SS One course. C-L: see Public Policy Studies 563S; also C-L: Children in Contemporary Society 634S, Children in Contemporary Society

636S. Experimental Communities. ALP, CCI, CZ, EI One course. C-L: see Visual Arts 554S
641S. Proseminar in Medical Sociology. SS Selected topics in medical sociology: social structure and health; social behavior and health; organization and financing of health care; medical sociology (for example, social epidemiology, stress and coping, health and aging). Instructor: Burton, George, Gold, or Moody. One course.

650S. Global Responses to the Rise of China. CCI, SS Issues on the impact of globalization on jobs and wages in advanced industrialized countries, the trend of regionalization in international political economy, the new strategies adopted by both advanced industrialized countries and developing countries under the WTO framework, South-North relationship in the era of globalization, the impact of outsourcing through globalization production networks on developing countries, comparative analysis of inequality, and other issues faced by developing countries today. Instructor: Gao. One course.

651S. Social Change, Markets, and Economy in China. CCI, SS Introduction to recent economic, social, and institutional changes in China, with focus on recent (post 1980) periods. Up-to-date descriptive reviews, empirical data, and discussions on historical background, current status, and future perspectives. Instructor: Yi. One course. C-L: Economics 542S


690S. Seminar in Selected Topics. Substantive, theoretical, or methodological topics. Instructor: Staff. One course.

THE MAJOR
Prerequisite. Sociology 110, 111, or an equivalent course with the consent of the director of undergraduate studies.

Major Requirements. Nine courses at or above the 200-level or above, including Sociology 332, Sociology 333, and a course involving a major research project (i.e., Sociology Honors Program, 495S and 496S, Sociology Research Seminar, 481S, 482S, 483S, 484S, 490S-1, a Research Independent Study Course, Sociology 393, or Sociology Internship Seminar, 499S). Students may substitute any 100-level or above statistics course for Sociology 333 with the consent of the director of undergraduate studies. No advanced placement credits and no more than two transfer credits may count toward the major.

A Handbook for Sociology Majors, available in the office of the director of undergraduate studies, describes areas of concentration, the honors program, and the Sociology Union. It also describes the departmental advising system and the interests of the faculty.

THE MINOR
Requirements: Five courses, four of which must be at or above the 200 level. Only one transfer credit and no Advanced Placement credits may count toward the minor.

Spanish
For courses in Spanish, see “Romance Studies (ROMST)” on page 565.

Department of Statistical Science (STA)
Professor Gelfand, Chair; Professor of the Practice Stangl, Associate Chair and Director of Undergraduate Studies; Professor West, Director of Graduate Studies; Professors Berger, Clark, Clyde, Dunson, Winkler, and Wolpert; Associate Professors, Hartemink, Hauser, Mattingly, Mukherjee, Reiter and Schmidler; Assistant Professors Li, Ma, and Tokdar; Professors Emeriti Burdick and Sacks; Professor of the Practice Banks; Assistant Professors of the Practice Cetinkaya-Rundel and Morgan, Associate Research Professor Iversen; Assistant Research Professor Lucas; Adjunct Professor Bayarri and Smith, Visiting Assistant Professor Rundel

A major or a minor is available in this department.

The Department of Statistical Science coordinates teaching and research in the statistical sciences at Duke University. In its teaching and research, the department's faculty members emphasize modern statistical methods involving computationally intensive stochastic modeling, coupled with interdisciplinary applications.
in many fields. The department also offers courses in basic statistical methods and advanced mathematical statistics.


30. **Basic Statistics and Quantitative Literacy.** QS Statistical concepts involved in making inferences, decisions, and predictions from data. Emphasis on applications, not formal technique. Prerequisite: Must have taken placement test and placed in Statistical Science 30. Not open to students who have Statistical Science 20 or 100-level statistics course. Instructor: Staff. One course.

89S. **First-Year Seminar.** QS Topics vary each semester offered. Instructor: Staff. One course.

101. **Data Analysis and Statistical Inference.** QS, R, STS Introduction to statistics as a science of understanding and analyzing data. Major themes include data collection, exploratory analysis, inference, and modeling. Focus on principles underlying quantitative research in social sciences, humanities, and public policy. Research projects teach the process of scientific discovery and synthesis and critical evaluation of research and statistical arguments. Readings give perspective on why in 1950, Samuel Wilks said "Statistical thinking will one day be as necessary a qualification for efficient citizenship as the ability to read and write." Prerequisites: placement exam. Not open to students with credit for Statistics 102 or above. Instructor: Cetinkaya-Rundel or Morgan. One course. C-L: Information Science and Information Studies

102. **Introductory Biostatistics.** QS, R, STS Reading and interpretation of statistical analysis from life and health sciences. Topics include: basic concepts and tools of probability, estimation, inference, decisions analysis, and modeling. Emphasizes role of biostatistics in modern society. Prerequisites: placement test. Not open to students who have credit for another 100-level STA course. Instructor: Schmidler or Stangl. One course. C-L: Information Science and Information Studies

103. **Statistics in the Courtroom.** QS Reading and interpretation of statistical analyses from court cases. Conceptual bases for using data and understanding uncertainty when making legal decisions. Includes reading and discussion of articles about legal cases. Topics include: basic concepts and tools of probability and conditional probability, and of statistical analysis including estimation, inference, prediction, and decision analysis. Prerequisites: Must have taken Statistical Science 30, Statistical Science 20 or taken statistics placement test and placed in Statistical Science 103. Instructor: Stangl. One course.

110FS. **Focus Program - Introductory Special Topics in Statistics.** QS This is a seminar course for focus students. Topics vary every semester. Mathematics 21 is a prerequisite. Instructor: Banks. One course.

111. **Probability and Statistical Inference.** QS Basic laws of probability - random events, independence and dependence, expectations, Bayes theorem. Discrete and continuous random variables, density, and distribution functions. Binomial and normal models for observational data. Introduction to maximum likelihood estimation and Bayesian inference. One- and two-sample mean problems, simple linear regression, multiple linear regression with two explanatory variables. Applications in economics, quantitative social sciences, and natural sciences emphasized. Prerequisites: Mathematics 21 or equivalent. Not open to students who have credit for another 100-level statistics course. Instructor: Staff. One course. C-L: Information Science and Information Studies

130. **Probability and Statistics in Engineering.** QS Introduction to probability, independence, conditional independence, and Bayes' theorem. Discrete and continuous, univariate and multivariate distributions. Linear and nonlinear transformations of random variables. Classical and Bayesian inference, decision theory, and comparison of hypotheses. Experimental design, statistical quality control, and other applications in engineering. Not open to students who have taken Statistical Science 250 or 611. Prerequisite: Mathematics 212 or equivalent. Instructor: Mukherjee. One course. C-L: Information Science and Information Studies, Modeling Biological Systems

Emphasis on applications. Examples drawn from a variety of fields. Prerequisite: 100-level statistics course. Permission of Director of Undergraduate Studies required for courses outside Statistical Science. Instructor: Stangl. One course.

230. Probability. QS One course. C-L: see Mathematics 230; also C-L: Information Science and Information Studies

231. Advanced Introduction to Probability. QS One course. C-L: see Mathematics 340

250. Statistics. QS An introduction to the concepts, theory, and application of statistical inference, including the structure of statistical problems, probability modeling, data analysis and statistical computing, and linear regression. Inference from the viewpoint of Bayesian statistics, with some discussion of sampling theory methods and comparative inference. Applications to problems in various fields. Prerequisite: Mathematics 221 or equivalent and Mathematics 230/Statistical Science 230. Instructor: Tokdar or Wolpert. One course. C-L: Mathematics 342, Information Science and Information Studies


393. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

470S. Introduction to Statistical Consulting. QS, R Participation by students in data analysis projects from the DSS Statistical Consulting Center. Projects led and directed by DSS faculty. Prerequisites: Statistical Science 360. Instructor: Cetinkaya-Rundell. One course.

471S. Computational Data Analysis. QS Data analysis, exploration, and representation. Scientific modeling and computation. Data mining for large datasets, algebraic decomposition methods, stochastic simulation for
temporal models of dynamic processes, graphical and network data, computational methods development. Problems and data drawn from ISDS research projects. Prerequisites: Statistical Science 360, some computer programming expertise. Instructor: Dunson. One course. C-L: Modeling Biological Systems

490S. Special Topics in Statistics. QS, R Special topics not covered in core courses and more advanced topics related to current research directions in statistics. Consent of instructor required. Instructor: Staff. One course.

497S. Research Seminar in Statistical Science I. QS, R Statistical and mathematical underpinnings of methodological research in statistical science. Student presentations of their statistical research in collaboration with, and under the supervision of, an DSS faculty mentor. Offered only in fall semesters. Permission of department required. Instructor: Stangl or West. One course.

498S. Research Seminar in Statistical Science II. QS, R, W Continuation of Statistical Science 497S. Statistical and mathematical underpinnings of methodological research in statistical science. Student presentations of their statistical research in collaboration with, and under the supervision of, a DSS faculty mentor. Consent of department required. Instructor: Stangl or West. One course.

503. Choice Theory. One course. C-L: see Business Administration 913

504. Statistical Genetics. One course. C-L: see Computational Biology and Bioinformatics 541; also C-L: Genome Sciences and Policy

505. Computational Gene Expression Analysis. QS C-L: see Computational Biology and Bioinformatics 521; also C-L: Molec Genetics & Microbiology 521

601. Bayesian and Modern Statistical Data Analysis. QS Principles of data analysis and modern statistical modeling. Exploratory data analysis. Introduction to Bayesian inference, prior and posterior distributions, predictive distributions, hierarchical models, model checking and selection, missing data, introduction to stochastic simulation by Markov Chain Monte Carlo using a higher level statistical language such as R or Matlab. Applications drawn from various disciplines. Not open to students with credit for Statistics 360. Prerequisite: Statistics 611 or Instructor consent. Instructor: Clyde, Dunson, or Reiter. One course.

611. Introduction to Statistical Methods. QS Emphasis on classical techniques of hypothesis testing and point and interval estimation, using the binomial, normal, t, F, and chi square distributions. Not open to students who have had Statistical Science 250 or Mathematics 342. Prerequisite: Mathematics 212 (may be taken concurrently) or equivalent, or consent of instructor. Instructor: Li. One course.

612. Numerical Analysis. QS, R One course. C-L: see Computer Science 520; also C-L: Mathematics 565, Modeling Biological Systems

613. Statistical Methods for Computational Biology. One course. C-L: see Computational Biology and Bioinformatics 540

614. Computational Structural Biology. QS, R One course. C-L: see Computer Science 664; also C-L: Computational Biology and Bioinformatics 550

621. Applied Stochastic Processes. QS One course. C-L: see Mathematics 541

622. Statistical Data Mining. QS Introduction to data mining, including multivariate nonparametric regression, classification, and cluster analysis. Topics include the Curse of Dimensionality, the bootstrap, cross-validation, search (especially model selection), smoothing, the backfitting algorithm, and boosting. Emphasis on regression methods (e.g., neural networks, wavelets, the LASSO, and LARS), classifications methods (e.g., CART, Support vector machines, and nearest-neighbor methods), and cluster analysis (e.g., self-organizing maps, D-means clustering, and minimum spanning trees). Theory illustrated through analysis of classical data sets. Prerequisites: Statistical Science 250. Instructor: Banks or Ma. One course. C-L: Computer Science 579

Estimation and hypothesis testing as decision problems: risk, sufficiency, completeness and admissibility. Stein estimation. Bayes decision functions and their properties. Minimax analysis and improper priors. Decision theoretic Bayesian experimental design. Combining evidence and group decisions. Prerequisite: Statistical Science 732 or consent of instructor. Instructor: Berger or Schmidler. One course.

690. Special Topics in Statistics. Prerequisite: Statistical Science 611 or consent of instructor. Pass/Fail grading only. Instructor: Staff. One course.

690-40. Topics in Probability Theory. QS One course. C-L: see Mathematics 690-40

THE MAJOR

The major in statistical science provides students with exposure to modern statistical reasoning and the skills needed to develop, analyze and utilize statistical techniques for addressing quantitative, data-based problems in the natural and social sciences. The course of study exposes students to a broad range of statistical methods using tools from mathematical and computational sciences. Students who complete the major in statistical science will be well prepared for careers in business, where they must appreciate and accommodate uncertainty in their decision-making, and for further study and embarking on research in science, law, business, or other fields.

As part of the course of study, majors in statistical science complete a research project under the supervision of a faculty member. These projects can involve the analysis of complex data, the development of new methods or theory, or the extension and evaluation of existing techniques. The director of undergraduate studies links majors to a research mentor, who works with students to develop and complete the research project. Students earn credit for their research by taking Statistics 497S and Statistics 498S.

For the A.B. Degree

Prerequisites. Mathematics 21 (or 111L), 122 (or 112L), 212, and 221 (or 216).

Major Requirements. Statistics 230/Mathematics 230. Statistics 250/Mathematics 342, or Statistics 611. Statistics 210. Statistics 360, 497S, and 498S. Two additional courses above Statistics 250 (excluding 540 and 611). Only one independent study in statistical science can be used towards the major. Up to one statistical course from other departments can be used towards the major, provided the course is pre-approved by the director of undergraduate studies.

For the B.S. Degree

Prerequisites. Mathematics 21 (or 111L), 122 (or 112L), 212, and 221 (or 216).

Major Requirements. Statistics 230/Mathematics 230. Statistics 250/Mathematics 342, or Statistics 611. Statistics 210. Statistics 360, 497S, and 498S. Three additional courses above Statistics 250 (excluding 540 and 611). Only one independent study in statistical science can be used towards the major. Up to two statistical courses above Statistics 250 from other departments can be used towards the major, provided the courses are pre-approved by the director of undergraduate studies. One 300-level or higher course in an applied quantitative area other than statistical science, such as engineering, mathematics, one of the natural sciences, or one of the quantitative social sciences.

THE MINOR

The minor is designed to provide students in other disciplines with opportunities for exposure and skill development in advanced statistical methods. These are useful for conducting research in applied subjects, and they are appealing to employers and graduate schools seeking students with quantitative skills. The minor is flexible, so that students from most majors can find a path to the minor that serves their needs. The director of undergraduate studies assists students in selecting courses for the minor.

Prerequisites. Mathematics 21 (or 111L) and 122 (or 112L).

Requirements. Five additional courses in statistical science above the 100 level, only one of which can be from Statistics 101, 102, 103, 111, or 130. Up to two courses above Statistics 250 from other departments can be used towards the major, provided the courses are pre-approved by the director of undergraduate studies.
Theater Studies (THEATRST)  
Professor Beckwith, Chair; Associate Professor of the Practice Hemphill, Director of Undergraduate Studies; Professors Beckwith, Burian, Conceison, Finucci, Moi, Porter, and Stiles; Associate Professors Foster and Solterer; Assistant Professor Metzger; Professors Emeritus Clum and Randall; Professors of the Practice Bell, Malone, McAuliffe, Riddell, and Storer; Associate Professor of the Practice Hemphill; Assistant Professors of the Practice Bend and O’Berski; Adjunct Professor of the Practice Azenberg

A major or a minor is available in this department.

Combining respect for history with immersion in contemporary issues, and intellectual engagement with creative expression, the Department of Theater Studies offers students a variety of opportunities to study and practice theater. The faculty view theater as a form of human expression, shaped by social, economic, technological, personal, and artistic forces.

Courses are designed to give majors a broad background necessary for advanced professional or scholarly work and to offer nonmajors the opportunity to deepen their understanding and appreciation of the theater. Guiding the work of the faculty is the belief that the theater is a collaborative art form that reaches out to other disciplines.

Courses in dramatic literature and the theater arts are complemented by productions of plays, past and present. This combination of academic coursework and production experience is a hallmark of the department’s approach. Its courses and productions are open to all undergraduates.

89S. First-Year Seminar. ALP  
Topics vary each semester offered. Instructor: Staff. One course.

103S. Communication, Improvisation, and Business. ALP  
Communication skills and presence for leadership in the business world through empowerment of others. Use of theater techniques (presence, voice, body gesture, text presentation and listening) to teach methods of leadership, action, and self-expression that motivate for results, enhance collaboration, and heighten confidence in oneself and others. Instructor: Staff. One course. C-L: Marine Science and Conservation

115. The Theater Today. ALP  
Introduction to major areas of research in Theater Studies with focus on specific theoretical and creative issues of contemporary concern in various disciplines of theater study. Instructor: Staff. One course.

145S. Acting. ALP, CCI  
The fundamentals of acting realism explored through exercises, scene study, and text analysis. Introduction to voice and movement training for the actor. Theory and text analysis studied in their historical context as well as their contemporary relevance. Instructor: Staff. One course.

164S. Technical Theater. ALP  
Theoretical and aesthetic aspects of technical production for the theater its practical applications: artistic and budgetary assessment, tools and equipment, construction materials and techniques, and production implementation. Focus on costume, set, lighting, and sound designs of current Theater Studies productions. Instructor: Staff. One course. C-L: Dance 278S

190S-1. Special Topics in Reading Theater. ALP, CCI  
A series of special topics seminars focusing on close readings of dramatic texts with an eye to their realization in performance. Each seminar will center on a theme and draw from a variety of theatrical works from different periods in history and/or different countries. Topics include drama and theater, drama and gender, drama and ethics, drama and history. Instructor: Staff. One course.

195FS. The Art of Transformation: A Workshop in Movement and Theater. ALP  
Movement, theater, music, and writing exercises, focusing on participants as individuals, as members of an ensemble, and within the context of their society. The work of Augusto Boal (Brazilian theater director, writer, and theorist). Theater and movement as tools for direct interaction with the Duke community. Open only to students in the Focus Program. Instructor: Staff. One course. C-L: Dance 195FS

201. Sport As Performance. ALP, CCI, EI, SS  
Sport as ritual, spectacle, and performance explored through theatre, performance studies, sociology, anthropology, and history. Topics range from professional and
Theater Studies (THEATRST) 631

collegiate team sports to individual athletic performances, in both domestic and global contexts. The performance aspects and ethics of race, gender, sexuality, and nation in live sport and in the media are examined. Coursework consists of written assignments, short papers, mid-term and final exam. Guest speakers from the worlds of athletics and theatre visit the class during the semester. Instructor: Conceison. One course. C-L: Cultural Anthropology 209, Sociology 201

204S. Performance and Social Change. ALP, EI One course. C-L: see Dance 207S

207S. Radio: The Theater of the Mind. ALP, CZ The Golden Age of American Radio (1920-1960), explored through the lens of culture, ethics, and technology. An examination, considering race, gender, and class, of the ways in which radio, as both a new and evolving technology, helped to homogenize and diversify America's sense of itself during this era. Includes wide range of radio genres from comedy to drama and music to news. Multimedia course, combining theory and performance; students create radio theater projects for the Web. Instructor: Foster. One course. C-L: Music 222S, Policy Journalism and Media

208. Contemporary Performance. ALP, R One course. C-L: see Dance 208; also C-L: African and African American Studies 229, Art History 229

210. The Great American Musical. ALP Broad-based examination of 20th-century musicals’ from origins in minstrel shows, to the evolution of the book musical comedies of the golden age of Broadway, to Hollywood movie musicals, and contemporary re-invention today. Lectures, screenings, and discussions will explore the musical from perspectives on its history, its fundamental generic characteristics, and its emphasis on assimilating ethnic, philosophic and religious differences into a community.(Shows and movies to be studied include Moulin Rouge, Showboat, South Pacific, Chicago, Sweeney Todd, and Gold Diggers of 1933). Instructor: Malone. One course. C-L: Music 211

211. Musical Theater Workshop: Performance. ALP A workshop in honing the skills necessary to perform in a musical. Students required to present one cabaret of numbers from contemporary musicals and a workshop performance of a musical. Consent of instructor required. Instructor: Clum and staff. One course. C-L: Music 212

212. Musical Theater Workshop: Creation. ALP A workshop on the creation and presentation of musicals culminating in a workshop presentation of short musicals written by the class. Consent of instructor required. Instructor: Kelly or Malone. One course. C-L: Music 213


214A. Internship in New York. One course. C-L: see English 313A

215A. The Business of City Life. Half course. C-L: see English 314A

216S. Entrepreneurship and International Arts Management. ALP, CCI Arts management theory and practices from a variety of cultures as they relate to entrepreneurship. Management of the creative process; the association between an entrepreneurial orientation and the organizational behavior and performance of nonprofit arts organizations. Instructor: Staff. One course. C-L: Markets and Management Studies

220. British and Irish Drama: 1890-1950. ALP The works of Wilde, Shaw, Synge, O'Casey, Coward, Rattigan, and others. Instructor: Staff. One course.

221. After the Fall of the Empire: British and Irish Drama 1945 to the Present. ALP The work of Osborne, Pinter, Stoppard, Edgar, Hare, Churchill, Kane, Friel, McGuinness and others. Instructor: Staff. One course.

222. Introduction to Shakespeare. ALP, W One course. C-L: see English 235; also C-L: Medieval and Renaissance Studies 330

223S. Introduction to German Drama. ALP, CCI, FL One course. C-L: see German 335S; also C-L: International Comparative Studies

224. Modernist Classics. ALP, CCI One course. C-L: see Literature 350

225S. Acting French. ALP, CCI, FL One course. C-L: see French 330S
226. Twentieth Century French Theater. ALP, CCI, FL One course. C-L: see French 411
227. Drama of Greece and Rome. ALP, CCI, CZ One course. C-L: see Classical Studies 304; also C-L: Visual and Media Studies 240
228S. The Italian Theater. ALP, CCI One course. C-L: see Italian 485S
232. Asian American Theatre. ALP, CCI One course. C-L: see English 387
233. History and Practice of the Dance and Dance-theatre of India. ALP, CCI, CZ One course. C-L: see Dance 356; also C-L: Religion 241, International Comparative Studies 378
234. Global Performance Art: History/Theory from 1950's to Present. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 344; also C-L: Information Science and Information Studies 275, Literature 222, Women's Studies 276
236. Gender in Dance and Theatre. ALP, CCI, CZ One course. C-L: see Dance 368; also C-L: Women's Studies 212, International Comparative Studies 215, Study of Sexualities
239A. Theater in London: Text. ALP Lecture version of Theater Studies 239AS/English 383A. Drama in performance from the Greeks to the present based on performances offered by the Royal Shakespeare Company, Royal National Theatre, and other theaters in London. Twenty plays will be seen and studied. (London Summer program.) Instructor: Clum. One course. C-L: English 383A
239AS. Theater in London: Text. ALP, CCI Drama in performance from the Greeks to the present based on performances offered by the Royal Shakespeare Company, Royal National Theatre, and other theaters in London. Twenty plays will be seen and studied. Satisfies Area I, II, or III requirement for English majors, as determined by instructor. (London summer program.) Instructor: Staff. One course. C-L: English 383AS
240A. Theater in London: Performance. ALP Lecture version of Theater Studies 240AS/English 384A. The stages of realization of a play or musical from the script to the production, focusing on productions in London. Aspects of theatrical performance through scene work, discussions, and workshops with British theater practitioners, observation of theater at work, and supervised projects. (London summer program.) One course. C-L: English 384A
240AS. Theater in London: Performance. ALP, CCI The stages of realization of a play or musical from the script to the production, focusing on productions in London. Aspects of theatrical performance through scene work, discussions, and workshops with British theater practitioners, observation of theater at work, and supervised projects. (London summer program.) Instructor: Clum. One course. C-L: English 384AS
241. Cabaret Workshop. ALP, CCI Creation of a cabaret performance (solo and ensemble work) borrowing elements drawn from comedy, drama, music, dance, as well as other contemporary performable art forms, using European Cabaret form at the turn of the twentieth century where social commentary, debate, questioning and provocation prevailed, as a model. Instructor: Staff. One course.
242. Improvisation. Using a series of exploratory games and exercises, this class will create an ensemble proficient in creating characters and stories without scripts. The focus will be on truth-telling and developing a form of expression that benefits the actor and non-actor equally. Ideal for anyone who intends to make public speaking and networking a part of their career. Instructor: O'Berski. One course.
244S. Movement for the Theater. ALP Intense series of exercises increasing "plasticity," power, and balance. Learning how to avoid injury and illness. Yoga, Pilates, acrobatics, gestural work, to strengthen training.
Acting from the core lending heightened physical stakes to performance. History of modes of theatrical movement. Instructor: Staff. One course. C-L: Dance 277S

246S. Shakespeare Studio. ALP Study in approaches to acting and directing Shakespeare text which focus on the actor's embodiment of text in ways which are organic, physical, and truthful. Use of text as the primary source for the actor's and director's work. Students will have opportunity to both act and direct in class exercises and projects. Extensive scenework. Prerequisite: Theater Studies 145S and consent of instructor. Instructor: Staff. One course.

248S. Voice and Speech. ALP Introduction to vocal training techniques which facilitate the healthy use of the voice as an effective tool for communication. Much of the course content based upon the work of Kristin Linklater. Includes concepts developed by other major contemporary theorists/practitioners in voice and speech, phonetics, and the study and practice of stage dialects. Attention paid to the voice and its connections to the body and psyche; techniques for both "freeing" and "shaping" the voice. Emphasis on process-oriented, experimental activities, and collaboration. Prerequisite: Theater Studies 145S or consent of instructor. Instructor: Staff. One course.

255S. Directing. ALP Establishment of basic skills of information communication from script to stage to audience; analyzing texts from a director's point of view; basic stage articulation of viewpoint; development of skills in mechanics and staging techniques. Emphasis on scripts of poetic realists. Prerequisite: Theater Studies 145S and consent of instructor. Instructor: Hemphill. One course.

261S. Costume Design. ALP, R The process of designing costumes for the stage beginning with the fundamentals of design and the language of clothing. Reading of plays as basis for analysis and interpretation of text and character, conceptualization of design ideas, and directions for design research. Weekly lab providing experience with and an understanding of costume construction theory and methodology, including the use of costume shop tools and equipment. Instructor: Staff. One course. C-L: Visual Arts 233S

262S. Scene Design. ALP, R Study of theory and methodology of set design for stage through examination of historical and contemporary stage design as well as conceptualization, research, and development of design solutions for assigned plays. Instructor: Bend. One course. C-L: Visual Arts 234S

263S. Lighting Design. ALP, R Introduction to the process and practice of lighting design for the theater. Focus on text analysis, research, design process, instrumentation, control, color, design documents, and realization of designs in the theater. Includes the study of principles and practices, labs in design imagery, and projects in lighting design. Prior experience in theater production required. Instructor: Staff. One course. C-L: Visual Arts 235S, Dance 276S


271. American Drama and Film Since 1960. ALP Focus on works which reflect the changes in American society since 1960; civil rights, feminism, gay liberation, and issues like the Vietnam War and post Cold War American hegemony. Plays by Albee, Mamet, Rabe, Kushner, and others. Films including Dr. Strangelove, Easy Rider, Apocalypse Now, and Malcolm X. Instructor: Staff. One course. C-L: Visual and Media Studies 324

272. America Dreams, American Movies. ALP A survey course in selected American films that create as well as reflect American national identity. Through lectures, weekly screenings and students’ oral reports, we will study a dozen of the best-loved movies in our popular culture, from THE GOLD RUSH, KING KONG, and IT HAPPENED ONE NIGHT to SINGIN’ IN THE RAIN, THE GODFATHER and WALL-E. We will examine how these movies, their directors, and their stars, came to define American mythologies in the twentieth century and how they have collected over time iconic resonance. Attention as well to genre, form,


275S. Acting For the Camera. ALP Introduction to film and television acting. Consent of instructor required. Instructor: Staff. One course. C-L: Arts of the Moving Image 310S

276. Italian Cinema. ALP, CCI One course. C-L: see Italian 380; also C-L: Literature 215, Arts of the Moving Image 254, Visual and Media Studies 308

277. The Dramatic Monster: Horror on Stage and Screen. ALP The evolving image of the "monster" on stage and screen, from the Victorian melodrama Sweeney Todd to the psychological-horror shocker Audition. Students will give oral reports (with appropriate clips) on horror movies past and present, beginning with the classic silent Cabinet of Dr. Caligari. Focus on how anxieties of different eras give rise to the different nightmares that play themselves out in the darkness of our theaters. Instructor: Bell. One course.

278. History and Concepts of Cinema. ALP One course. C-L: see Arts of the Moving Image 201; also C-L: English 181, Literature 110, Visual and Media Studies 289, Documentary Studies 264, Policy Journalism and Media


282S. Transforming Fiction for Stage and Screen. ALP, W Theory and practice of the process of adaptation of serious literary works of fiction to screenplay or play form. Reading and analysis of literary works adapted as screenplays and plays. Project in writing an adaptation. Consent of instructor required. Instructor: Malone. One course. C-L: English 227S, Arts of the Moving Image 302S

290-1. Special Topics in Dramatic Literature. ALP May be repeated for credit. Instructor: Staff. One course.

290S-1. Special Topics in Dramatic Literature, History, Theory, or Criticism. ALP May be repeated for credit. Instructor: Staff. One course.

290-2. Special Topics in Acting. ALP May be repeated for credit. Instructor: Staff. One course.

290S-2. Special Topics in Acting. ALP May be repeated for credit. Instructor consent required. Instructor: Staff. One course.


290-4. Special Topics in Theater Studies Workshop. ALP Research, study, and exploration of a selected dramatic text or texts, other performance material, and/or particular aspects of performance (historical, cultural, textual, or stylistic). Emphasis on the process of investigating a text - both in theory and in practice. Culminates in performance or presentation. May be repeated for credit. Consent of instructor required. Instructor: Staff. One course.

290S-4. Special Topics in Theater Studies. Topics vary. May be repeated for credit. Instructor: Staff. One course.

290-5. Special Topics in Mainstage Production. ALP, CCI, R Students participate in the production of a theatrical text for public performance. Students analyze, research, rehearse, and produce a play under the direction of a member of the Theater Studies faculty or a guest professional. Students may focus on acting, directing, design, dramaturgy, management, or production; specific area of focus will be determined through audition and/or arrangement with the instructor. Consent of instructor required. May be repeated for credit. Instructor: Staff. One course.
290S-5. Special Topics in Arts Management. ALP Topics in aspects of arts management. May be repeated for credit. Instructor: Staff. One course.

290-6. Special Topics in Film. ALP Topics vary. Instructor: Staff. One course.

290S-6. Special Topics in Film. ALP Topics Vary. Instructor: Staff. One course.

291. Independent Study. ALP Individual directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member, resulting in an academic or artistic product. Consent of instructor and the director of undergraduate studies required. Instructor: Staff. One course.

301. Religion and Ritual. ALP, CCI, CZ, EI One course. C-L: see Religion 289

317. Professional Internship. Supervised work on a professional production; focus may be on acting, design, playwriting, theater administration, or stage management. Written analysis of both the process of producing as well as the final production. Consent of instructor required. Offered only on Satisfactory/Unsatisfactory basis. Half course. Instructor: Staff. Half course.

318. Professional Internship. Same as 317, but for work that extends over a full term. Consent of instructor required. Offered only on Satisfactory/Unsatisfactory basis. Instructor: Staff. One course.

322S. Chekhov. ALP, CCI, W One course. C-L: see Russian 327S; also C-L: International Comparative Studies

323S. The Actress: Celebrity and the Woman. ALP, CCI, CZ One course. C-L: see Russian 383S; also C-L: Women's Studies 260S

324S. National Dramas and Cabaret Nights: Theater in Modern Polish Culture. ALP, CCI, CZ One course. C-L: see Polish 307S

327S. What's Lost in Translation? Latin American Theater in English. ALP, CCI, CZ One course. C-L: see Spanish 365S; also C-L: International Comparative Studies 337S

334. Shakespeare: Comedies and Romances. ALP One course. C-L: see English 334; also C-L: Medieval and Renaissance Studies 333

336. Shakespeare Before 1600. ALP, EI, R One course. C-L: see English 336; also C-L: Medieval and Renaissance Studies 331

337. Shakespeare After 1600. ALP, EI, R One course. C-L: see English 337; also C-L: Medieval and Renaissance Studies 332

340S. Solo Performance. ALP, W The makings of solo performance. Creation of personal presentation through journal writing, memory exploration, and personal interests. Exploration of text through voice work, storytelling, and choreography of the solo performer through movement, gesture, and props. Previous theater or dance experience plus instructor consent required. Instructor: Hemphill. One course. C-L: Dance 206S


346S. Voice and Body Gesture Theater. ALP Exercises designed for breath control, ear training and the spoken word, with emphasis on the theatrical use of the voice in gestural theater, in order to strengthen, free, and develop the natural range of the voice with the support of the body. Individual and ensemble work. Prerequisite: Theater Studies 248S or consent of instructor. Instructor: Hemphill. One course.

356. New Works in Process Workshop. ALP The development and staging of new plays from their first draft to production in the New Works Festival. Participation in the Festival (as directors, playwrights, actors, dramaturgs, designers, or stage managers). May be repeated for credit. Instructor: Storer and staff. One course.

364. Performance and Technology: Composition Workshop. ALP, STS One course. C-L: see Dance 308; also C-L: Information Science and Information Studies 376

370S. Moving Image Practice. ALP, STS One course. C-L: see Arts of the Moving Image 308; also C-L: Visual and Media Studies 261S, Information Science and Information Studies

372. Existentialist Cinema. ALP, CCI, CZ, EI, STS One course. C-L: see German 386; also C-L: Literature 218, Visual and Media Studies 283, Arts of the Moving Image 267, Arts of the Moving Image

390S-1. Special Topics in Directing. ALP Topics vary each semester offered. Instructor: Staff. One course.

390S-2. Special Topics in Dramatic Writing. ALP May be repeated for credit. Instructor: Staff. One course.

390S-3. Special Topics in Design. ALP Topics in aspects of theatrical design. Topics vary each semester offered, may be repeated for credit. Instructor: Staff. One course.

390S-4. Special Topics in Performance Studies. ALP Topics vary by semester. May be repeated for credit. Topics course. Instructor: Staff. One course.

401S. Senior Colloquium. ALP, R Major research project in production (acting, directing), critical writing, dramatic writing, or design. Instructor: McAuliffe. One course.


492T. Tutorial. Tutorial under the supervision of a faculty member for two or more students working on related independent projects. Consent of instructor required. Instructor: Staff. One course.

493-1. Research Independent Study. R Individual research in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

495. Senior Distinction Project. Consent of instructor required. Instructor: Staff. One course.

520A. Theater in London: Text. A survey of drama from the Elizabethan period to the present based on performances offered by the Royal Shakespeare Company, Royal National Theatre, and other theaters in London and Stratford-Upon-Avon. Twenty plays will be seen and studied. Instructor consent required. Instructor: Staff. One course. C-L: English 583

530S. Translation Studies and Workshop. ALP, CCI, CZ, W Through reading texts about translation and by doing an independent project translating part of a play, students develop skills in translation theory and practice, culminating in a public staged reading of their work. Each student chooses a different play, in source language of his/her own choice, and translates into English. Readings are seminal texts in translation studies covering topics such as globalization, adaptation, the translator’s role, gender in translation, and postcolonialism to explore transmission of text/performance across cultures. Course is for graduate students and undergraduates. Enrollment limited. No previous translation experience required. Instructor: Conceison. One course. C-L: Romance Studies 520S, Asian & Middle Eastern Studies 502S

533S. Performance Studies. ALP Introduction to theatrical transformations of traditional notions of drama into the broader category of performance, and to the performative field that seeks to understand them. Topics include the crossing of formal boundaries, the development of new technical possibilities, the role of uncertainty in the process of making a performance, and the purposes of performance, which range from the social to the spiritual and from the political to the personal. Theoretical readings and performances including works by Wagner, Artaud, Brecht, Benjamin, Chaplin, O'Neill, Stanislavski, Barthes, and Anderson. Instructor: Foster. One course. C-L: Literature 520S
535S. AfroFuturism. ALP  One course. C-L: see African and African American Studies 620S; also C-L: Dance 535S, Visual and Media Studies 524S

540A. Theater in London: Performance. Understanding the growth of a play from the script to final production, with focus on shows playing in London. Includes backstage theater tours, scene work, observations, audition workshops with theater practitioners, and supervised projects. Instructor consent required. Instructor: Staff. One course. C-L: English 584

590. Advanced Special Topics in Dramatic Literature (Lecture). ALP  Topics vary by semester. Consent of instructor required. Instructor: Staff. One course.

590S-1. Advanced Special Topics in Dramatic Literature (Seminar). ALP  Instructor: Clum or Foster. One course.

THE MAJOR

The major in Theater Studies offers students instruction in both 1) the relationship of theater to the cultures that produce and consume it through the study of dramatic literature, history, and theory; and 2) the collaborative theater arts (writing, acting, design, directing, production), with a particular interest in the ways in which these two areas inform each other. While the Theater Studies major offers students preparation for graduate study, advanced theater training, or entry-level work in theater and related professions, it also offers a basic understanding and appreciation of the literature, history, and practice of theater for a student who desires a liberal arts education.

Major Requirements.

- 115 Theater Today
- 190S Reading Theater or 239S Theater in London
- 280S Dramatic Writing
- 145S Introduction to Acting
- 255S Directing
- One 100-level or above design class
- 401S Senior Colloquium
- Three additional 100-level or above courses in Theater Studies

Students are expected to take three Theater Studies electives in at least one of the following areas of specialization in order to deepen their knowledge and skills:

1. Critical Studies in Theater and Performance: 201 or one 290-5, 390S-4, 533S.
2. Dramatic Writing: 273S, 290-5, 480S
3. Acting: 246S or 248S, 290-5, 345S
4. Design: an additional two courses from 261S, 262S, 263S, 390S-3
5. Dramaturgy & Directing: one 290-5, 346S, 390S-1

Note: Theater Studies 290-5 Theater Studies Production is an integrative experience and can be taken at any time in the student’s undergraduate career.

Departmental Graduation With Distinction

Students with at least a B average in their Theater Studies courses are eligible to apply for a project. They should acquire the Policy for Graduation with Distinction in Theater Studies and an application form from the Theater Studies office. The student's proposed project needs the approval of the project supervisor and the director of undergraduate studies. All projects must be approved by registration in the spring semester of the year prior to the project.

A student may pursue a project in writing, directing, design, acting, dramatic literature, theater history, or dramatic theory. All projects must have a research and a substantial written component. They may also
have a production component. Distinction projects are granted one course credit in the fall (Theater Studies 495) and the remaining work will be completed in conjunction with Senior Colloquium in the spring.

The student's written work and production project will be reviewed by a committee (approved by the director of undergraduate studies) comprised of the project supervisor, the director of undergraduate studies, and a third faculty member in Theater Studies or a related field. A meeting of the committee and the student to evaluate the project will be part of the evaluation process. The committee will decide whether the student receives distinction and what level of distinction the student will receive. No special courses are required, though there are prerequisites for distinction projects. See the Policy for Graduation with Distinction in Theater Studies for specific prerequisites.

THE MINOR

One course from the following: Theater Studies 115 Theater Today, Theater Studies 190S-1 Reading Theater, or Theater Studies 239AS, Theater in London.

Four additional 100-level or above courses in Theater Studies.

Visual Studies

For courses in Visual Studies, see “Art, Art History, and Visual and Media Studies (ARTSVIS/ARTHIST/VMS)” on page 121.

Women's Studies (WOMENST)

Professor Khanna (English), Director; Professor Grosz; Associate Professors Hasso, Rudy, Weeks, and Wilson; Assistant Professor of the Practice Rosenberg; Affiliated faculty: Professors Allison (cultural anthropology), Fulkerson (divinity), Holloway (English), Koonz (history), Lubiano (African and African American Studies), Nelson (cultural anthropology), Piot (cultural anthropology), Silverblatt (cultural anthropology), and Wald (English); Associate Professors Holland (English), Lubiano (African and African American Studies), Mottahedeh (literature), Olcott (history), Rojas (Asian and Middle Eastern studies), Stein (cultural anthropology), and Wiegman (Literature); Adjunct faculty: Associate Professor Curtain (University of North Carolina) and Assistant Professor Gokariksel (University of North Carolina).

A major and a minor is available in this program.

Women’s Studies is part of a historical educational enterprise inaugurated by social movement and dedicated to the study of identity as a complex social phenomenon. In the field’s first decades, feminist scholarship reoriented traditional disciplines toward the study of women and gender and developed new methodologies and critical vocabularies that have made interdisciplinarity a key feature of Women’s Studies as an autonomous field. Today, scholars continue to explore the meaning and impact of identity as a primary – though by no means transhistorical or universal – way of organizing social life by pursuing an intersectional analysis of gender, race, sexuality, class, and nationality. In the classroom, as in its research, its goal is to transform the university’s organization of knowledge by reaching across the epistemological and methodological divisions of historical, political, economic, representational, technological and scientific analysis. In the program’s dual emphasis on interdisciplinarity and intersectionality, it offers students new knowledge about identity while equipping them with a wide range of analytical and methodological skills.

The courses listed below are offered by Women’s Studies or by other academic departments and programs. For a more detailed description of each course, contact the Women’s Studies office or the appropriate department or program office.

Women's Studies Core Courses (WOMENST)

89S. First Year Seminar in Gender Studies. SS New concepts and themes in gender and feminist studies. Topics may vary each semester. Instructor: Staff. One course.

101. Gender and Everyday Life. CCI, SS Introduction to the way Women's Studies as an interdisciplinary field studies gender in its complex intersection with race, class, and sexuality. The sex/gender distinction;
biological determinism, ideology, commodity culture, essentialism and social construction; the sexual division of labor; colonization and post coloniality, imperialism, racialization; and heteronormativity. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Women's Studies. CCI Topics differ by section. Instructor: Staff. One course.

190FS. Special Topics in Focus. Seminar for students in Focus Program only. Topics vary each semester offered. Instructor: Staff. One course.

199S. Thinking Gender: An Introduction to Feminist Theory. CCI, SS Introduction to foundational concepts in feminist thought on sex and gender. Survey of core concepts in the field of Women's Studies and introduction to the fundamental debates within the history of feminist thinking. Instructor: Staff. One course. C-L: Marxism and Society

202S. Introduction to Study of Sexualities. CZ One course. C-L: see Study of Sexualities 199S

208. The French Love Story. ALP, CCI One course. C-L: see French 361; also C-L: Literature 262

209S. Muslim Women Across the Ages. CCI, CZ, SS, W One course. C-L: see History 225S; also C-L: International Comparative Studies 365S, Islamic Studies

210S. Gender and Digital Culture. ALP, STS, W One course. C-L: see Information Science and Information Studies 340S; also C-L: Visual and Media Studies 286S

211. Seventeenth-century Fictions of Women. ALP, CCI, FL One course. C-L: see French 338

212. Gender in Dance and Theatre. ALP, CCI, CZ One course. C-L: see Dance 368; also C-L: Theater Studies 236, International Comparative Studies 215, Study of Sexualities

214. Contemporary Israeli Cinema. ALP, CCI, EI One course. C-L: see Asian & Middle Eastern Studies 241; also C-L: Arts of the Moving Image 257, Literature 217, Jewish Studies 241, Islamic Studies

215. Cyborgs. CCI, SS, STS, W One course. C-L: see Cultural Anthropology 213; also C-L: Policy Journalism and Media Studies

217. Gender and Culture. CCI, SS One course. C-L: see Cultural Anthropology 271; also C-L: International Comparative Studies 203, Marxism and Society, Study of Sexualities

218S. Daily Life in Antiquity. ALP, CCI, CZ One course. C-L: see Classical Studies 268S

219. Medieval Bodies: Sex & Food. CCI, CZ, EI One course. C-L: see History 246; also C-L: Medieval and Renaissance Studies 256, Study of Sexualities 210

221. Women at Work: Gendered Experience of Corporate Life. CCI, SS, STS Analysis of gender, class and race in contemporary business organizations and roles of men and women within them. Management systems, information technology and human resource systems, as artifacts to larger, gendered environment. Instructor: Reeves. One course. C-L: Sociology 331

222. Philosophical Issues in Feminism. CZ, EI One course. C-L: see Philosophy 222

222S. Philosophical Issues in Feminism. One course. C-L: see Philosophy 222S

225. Women and the Political Process. R, SS A systematic analysis of the U.S. political system, electoral politics, platform implications, and leadership trends in the context of women's role in political life, as voters, leaders, and citizens. Instructor: Staff. One course. C-L: Political Science 203

227. Women in Film. ALP, CCI One course. C-L: Arts of the Moving Image 216, Literature 219, Study of Sexualities 225

230. Women in the Economy. CCI, EI, R, SS One course. C-L: see Economics 348


233. Traffic in Women: Cultural Perspectives on Prostitution in Modern China. ALP, CCI, SS One course. C-L: see Asian & Middle Eastern Studies 333; also C-L: Cultural Anthropology 334, Study of Sexualities 233, Arts of the Moving Image 270

235S. Clinical Issues for the LGBTQ Community. CCI, SS One course. C-L: see Study of Sexualities 235S; also C-L: Psychology 310S

236. African American Women and History. CCI, CZ One course. C-L: see African and African American Studies 310; also C-L: History 349

237. Women, Gender, and Sexuality in U.S. History. CCI, CZ, EI, SS, W One course. C-L: see History 374

241. Gender, Work, and Organizations. CCI, SS One course. C-L: see Sociology 229; also C-L: Markets and Management Studies

245. Gender and Morality: Indian Perspectives. ALP, CCI, CZ, EI One course. C-L: see Religion 272; also C-L: Ethics Courses Offered Through Other Departments


250. Film and the African Diaspora. ALP, CCI, SS One course. C-L: see African and African American Studies 330; also C-L: Visual and Media Studies 228

252S. Popular Fictions. ALP One course. C-L: see Literature 345S; also C-L: English 375S

260S. The Actress: Celebrity and the Woman. ALP, CCI, CZ One course. C-L: see Russian 383S; also C-L: Theater Studies 323S


270S. Animals and Ethics: Welfare, Rights, Utilitarianism, and Beyond. CCI, EI, SS The ways humans depend on animals for a variety of products and information, with questions about the morality of specific uses. The origin of the contemporary animal rights movement through the lens of ethical theories, Kantianism, rights approaches, abolition, Peter Singer, and utilitarianism. The role of animal welfare through the nineteenth and twentieth centuries, viewed internationally, including comparison of welfare versus rights agendas. Postmodern and feminist alternatives to existing theories. Animal law and the question of legal standing for animals. Benefits and limits of environmentalism as a mode of animal advocacy. Instructor: Rudy or Staff. One course. C-L: Public Policy Studies 227S

275. Food, Farming, and Feminism. CCI, EI, SS Viewing "agriculture," "nature," and "consumption" as pressing feminist themes and exploration of various dimensions of the cultural and political ecology/economy of producing, processing, circulating, preparing, and consuming sustenance. Particular focus on the ethical impact of US policy on rural farm communities and developing nations. Instructor: Staff. One course. C-L: Environment 209

275S. Food, Farming, and Feminism. CCI, EI, SS Viewing "agriculture," "nature," and "consumption" as pressing feminist themes and exploration of various dimensions of the cultural and political ecology/economy of producing, processing, circulating, preparing, and consuming sustenance. Particular focus on the ethical impact of US policy on rural farm communities and developing nations. Instructor: Staff. One course. C-L: Environment 209S

276. Global Performance Art: History/Theory from 1950's to Present. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 344; also C-L: Information Science and Information Studies 275, Literature 222, Theater Studies 235

277. Global Art Since 1945. ALP, CCI, CZ, EI One course. C-L: see Art History 281; also C-L: International Comparative Studies 219, Marxism and Society, Ethics Courses Offered Through Other Departments
279. Melodrama East and West. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 211; also C-L: International Comparative Studies 307, Visual and Media Studies 223

280S. Anthropology of Space. CCI, SS One course. C-L: see Cultural Anthropology 426S; also C-L: Literature 235S, Islamic Studies

282. Italian Women Writers. ALP, EI One course. C-L: see Italian 382; also C-L: Medieval and Renaissance Studies 344

288S. Gender and Sexuality in Africa. CCI, SS One course. C-L: see African and African American Studies 311S; also C-L: Cultural Anthropology 311S

290. Selected Topics in Women's Studies. Topics vary, focusing on interdisciplinary work arising from feminist scholarship. Instructor: Staff. One course.

290S. Selected Topics in Women's Studies. Seminar version of Women's Studies 290. Instructor: Staff. One course.

291. Independent Study. Directed reading in a field of special interest under the supervision of a faculty member, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Consent of instructor and program director required. Instructor: Staff. One course.

293. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to juniors. Consent of instructor and program director required. Instructor: Staff. One course.

360S. Feminist Activism: Social Movements. CCI, CZ, SS, W Comprehensive introduction to feminist theoretical conceptions of the social, political, economic, and the human. Explores the rise of gender based discourses and social movements in the context of broader considerations of modernity, democracy, and liberal humanism and the value of rights discourse for feminist agendas. Includes a comparative dimension that emphasizes cross cultural and historical analysis. Instructor: Staff. One course.

361. Money, Sex, Power. CCI, CZ, SS Same as Women's Studies 361S except instruction provided in lecture format. Instructor: Staff. One course. C-L: Markets and Management Studies, Marxism and Society

361S. Money, Sex, and Power. CCI, CZ, SS Capitalism as a historical force in its relation to gender and race structures. The intellectual history provided by Marxist critiques of capital for the development of a distinct body of feminist materialist thought, including dual systems theory, ideology critique, poststructuralist understandings of language and culture, and the rise of globalization as the latest economic context in which to think about gender, material life and power. Instructor: Staff. One course. C-L: Study of Sexualities

362. Gender and Popular Culture. CCI, SS, W Same as Women's Studies 362S except instruction is provided in lecture format. Instructor: Staff. One course. C-L: Visual and Media Studies 330

362S. Gender and Popular Culture. CCI, SS, W An analytic investigation of ways popular cultural forms produce and reinforce gender relations. Instructor: Staff. One course. C-L: Visual and Media Studies 331S

363S. Interpreting Bodies: Identity and Beyond. CCI, SS How the body has come to define the human in language, law, science, politics and economics. The body's relation to identity and subjectivity. The representation of the body in particular cultural discourses and the social history and dynamic in which that representation has taken place. Instructor: Staff. One course.

364S. Race, Gender, and Sexuality. CCI, SS Gender's relationship to race and sexuality explored through a variety of issues, including health, intimacy, family, the state, economic practices, transnational communities and identities, and social movement. Instructor: Staff. One course. C-L: Study of Sexualities 264S, African and African American Studies 242S

365. Gender and Political Theory. CCI, SS Feminist analyses of and engagements with some of the canonical texts and traditional concepts of Western political theory. Feminist contributions to, challenges to, and
revisions of the terms of key conceptual and political debates in political theory. Instructor: Weeks. One course.
C-L: Political Science 383

366S. Nature, Culture, and Gender. CCI, EI, NS, SS Understanding human identity through a consideration of the human animal boundary, feminist primatology, animal welfare, the great ape project. Do women view nature differently than men? Ethics of primate research, primate gender roles, human justice and non-human animals, subjectivity and emotional lives of nonhuman animals, the relationship between gender, nature, and animals, new formulations of "nature/culture," women and animals. Instructor: Staff. One course.

367. Feminist Ethics. CCI, EI, SS Do women experience the world differently than men? An examination of women's experience, women's ways of knowing, ethical systems and feminist critique, patriarchy, dualistic thinking, gender oppression, care ethics, ethical dilemmas. Lecture version of Women's Studies 367S. Instructor: Rudy. One course. C-L: Study of Ethics 204

367S. Feminist Ethics. CCI, EI, SS Do women experience the world differently than men? An examination of women's experience, women's ways of knowing, ethical systems and feminist critique, patriarchy, dualistic thinking, gender oppression, care ethics, ethical dilemmas. Instructor: Rudy. One course. C-L: Study of Ethics 204S

368. Gender, Sexuality, and Human Rights. CCI, EI, SS This course investigates gender and sexual dimensions of human rights, considering key international human rights campaigns and emphasizing the historical and philosophical contexts involved in advocacy for Women's Human Rights and Sexual Rights. Instructor: Staff. One course. C-L: Study of Sexualities 268

368S. Gender, Sexuality, and Human Rights. CCI, EI, SS This course investigates gender and sexual dimensions of human rights, considering key international human rights campaigns and emphasizing the historical and philosophical contexts involved in advocacy for Women's Human Rights and Sexual Rights. May include a service-learning component. Instructor: Staff. One course. C-L: Study of Sexualities 268S

369S. Transnational Feminism. CCI, EI, R, SS Ethico-political strengths and shortcomings of feminism across international borders. Philosophical, political, economic, filmic, and literary formulations of international feminism. Interdisciplinary and multimedia course. Topics include Marxist internationalism and feminism; disciplinary ethnocentrism; international human rights and women's rights; postcolonial feminism; labor, domesticity, and migration; and the idea of 'transnationalism'. One course. C-L: International Comparative Studies 208S

370S. Queer Theory. ALP, CCI, SS A seminar designed specifically for advanced study in sexuality and gender. Contextualizes queer theory as a distinct analytic tradition by paying attention to poststructuralist approaches to subjectivity, sociality, power, and knowledge. This course also serves as the capstone required for the Certificate in the program in the study of sexualities. Instructor: Staff. One course. C-L: Study of Sexualities 470S, Literature 475S, Marxism and Society

371S. Gender, Sexuality, and the Image. ALP, CCI, R, SS, W Image and visual culture in the production and engagement of gender, race, sexuality, and class. Examining the various ways images organize understandings and experiences of gender, sexuality, and their relations via the methodologies of feminist and queer theory. How contemporary feminist art challenges U.S. feminist scholarship working to theorize feminism from within transnational contexts. This course includes a curatorial component, and will be taught in collaboration with Duke University’s Nasher Museum. Instructor: Lamm. One course. C-L: Study of Sexualities 371S, Visual and Media Studies 371S

372S. Freud and Sexuality. CCI, R, SS Introduction to central concepts in Sigmund Freud's writings, focusing mainly on his understanding of sexuality, stages of child's development through sexuality including development of the ego or sense of self, operations of the unconscious and genesis of sexual drives in the constitution of male and female subjects. Basic Freudian concepts explained through central feminist questions of sexuality and sexual difference. Instructor: Grosz. One course. C-L: Literature 260S, Literature 310S, Psychology 322S
373S. Freud and Feminism: The Unconscious. CCI, R, SS Introduction to Freud’s psychoanalytic accounts of the unconscious. How various gaps in consciousness explain symptoms, psychological disorders and dreams. Freud's account of the unconscious and its relevance to theories of subjectivity, feminist theory and antiracist theory, expanding subjectivity to include otherwise marginalized or oppressed social groups. How Freud’s writings have been taken up by other leading intellectual figures, including Lacan, Irigaray, Kristeva, Derrida, and Deleuze and Guattari. Instructor: Grosz. One course. C-L: Literature 261S

380S. Feminist Research. CCI, EI, R, SS This interdisciplinary seminar uses feminist and critical scholarship from many disciplines to examine how ways of knowing (epistemology), ways of being (a person’s identity and locations), power relations within and between countries, and different historical contexts impact the production, understanding, and circulation of knowledge. Course is designed to allow each student to develop a logical and feasible research question; improve their skills in reading, understanding, and evaluating existing research; and develop a research paper based on secondary sources. Open only to sophomores, juniors and seniors. No 1st year students. Instructor: Hasso. One course. C-L: International Comparative Studies 279S

385S. Women in the Public Sphere: History, Theory and Practice. CCI, SS, W Why and how women who seek to practice leadership in public life operate within broad historical and theoretical contexts. Examine how American women have exercised leadership for social change over the last two centuries. Analyze current debates about gender and leadership in academic literature and the popular press, and discuss the opportunities and challenges facing women today. Explore the relationship between theory and practice by applying theory to current-day issues. This course serves as the preferred gateway course for The Moxie Project: Women and Leadership for Social Change (DukeEngage - 8 weeks in NYC working with a local or national organization serving women and girls). Instructor: Seidman. One course. C-L: Public Policy Studies 225S

390. Advanced Topics in Women's Studies. SS Lecture version of Women's Studies 390S. Instructor: Staff. One course.

390S. Advanced Topics in Women's Studies. Topics vary, focusing on advanced interdisciplinary work arising from feminist scholarship. Instructor: Staff. One course.

401. Gender and Law. CCI, EI, SS Examination of issues at the intersection of gender and law through a number of different theoretical lenses. Analyzes policy problems with gender implications from the perspective of formal equality, substantive equality, nonsubordination theory, different voice theory, autonomy, and various poststructural critiques. Engages theory at the level of concrete, easily accessible ethical and policy issues, including such topics as employment equality, pregnancy, domestic violence, rape, reproductive rights, sexual orientation and sexual identity discrimination, family equality, sexual harassment, pornography, education equality, affirmative action, and the justice system. Instructor: Bartlett. One course. C-L: Literature 430, Public Policy Studies 315


429. Gender and Sexuality in Latin America. CCI, CZ, SS One course. C-L: see Cultural Anthropology 429; also C-L: International Comparative Studies 426, Latin American Studies, Marxism and Society, Study of Sexualities

430S. Travel, Gender, and Power. CCI, SS One course. C-L: see Cultural Anthropology 430S; also C-L: Asian & Middle Eastern Studies 305S, Islamic Studies

465S. Feminist Classics. ALP, CCI One course. C-L: see Literature 465S; also C-L: Philosophy 274S, English 488S

490S. Senior Seminar in Women's Studies. CCI, R, W Advanced research course for majors in Women's Studies. Topics vary by semester. Students produce a significant research paper. Consent of instructor required. Instructor: Staff. One course.

Women's Studies (WOMENST) 643
493. Honors Independent Study. R Open to students pursuing distinction. Individual research in a field of special interest under the supervision of a faculty member, the central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open to seniors. Consent of instructor and program director required. Instructor: Staff. One course.


509S. Race, Class, and Gender: A Social History of Modern (1750-present) Britain. CCI, CZ, EI, SS One course. C-L: History 505S; also C-L: African and African American Studies 515S

512S. Film Feminisms. ALP, CCI, CZ One course. C-L: Literature 611S; also C-L: Arts of the Moving Image

515S. Gender, Identity, and Public Policy. R, SS One course. C-L: Public Policy Studies 530S, Political Science 521S

519S. Topics in Sexuality and Gender Studies. ALP, CCI One course. C-L: Italian 585S

581S. Masculinities. CCI, CZ, R, SS One course. C-L: Cultural Anthropology 540S

590. Topics in Feminist Studies

590S. Selected Topics in Feminist Studies. A seminar in contemporary issues, methodology, and/or selected theoretical questions pertaining to feminist scholarship. Instructor: Staff. One course.

601S. Debates in Women's Studies. This course is designed for Masters and Professional Schools students and for Ph.D. students with little or no background in feminist scholarship. It introduces students to the basic conceptual tools of feminist inquiry by way of an examination of some of the key debates in feminist studies. Instructor: Staff. One course.

Women's Studies Courses Across Disciplines
The following courses count toward a major or minor when taught by faculty affiliated with Women’s Studies and/or approved by a Women’s Studies faculty advisor. There are additional courses that count toward the major, and students should contact the Women's Studies office for additional information.

African and African American Studies
210. History and Modern Africa
211. History of Africa: From Antiquity to Early Modern Times
216. Culture and Politics in the Caribbean

Art History
280. European Art 1900-1945
288. Dada and Surrealism

Arts of the Moving Image
203. Film Theory

Cultural Anthropology
170. Advertising and Society: Global Perspective
204. Self and Society
250. Muslim World: Transformations and Continuities
271. Gender and Culture
272S. Advertising and Masculinity

English
750. Studies in Renaissance Literature

French
428. Sexuality and Gender Studies

History
203. History of Africa: From Antiquity to Early Modern Times
204. History and Modern Africa
374. Women, Gender, and Sexuality in U.S. History
800. Colloquia

International Comparative Studies
170. Muslim World: Transformations and Continuities
203. Gender and Culture

Italian
Women’s Studies (WOMENST)  645

384. European Art 1900-1945

**Jewish Studies**

140. Judaism
140S. Judaism
271. Women in the Biblical Tradition: Image and Role

**Linguistics**

170. Advertising and Society: Global Perspective

**Literature**

316. Film Theory
360. Women Writers
390-6. Special Topics in Gender and Sexuality

**Medieval and Renaissance Studies**

655. Early Christian Asceticism

**Philosophy**

222. Philosophical Issues in Feminism
503S. Contemporary Ethical Theories

**Political Science**

306S. Politics and the Libido
582S. Contemporary Ethical Theories

**Portuguese**

360S. Geographies of the Erotic: Brazilian Literature in Translation

**Psychology**

220. The Psychology of Gender
224. Self and Society
658S. Seminar in Emotion

**Public Policy Studies**

259S. Women as Leaders

**Religion**

140. Judaism
140S. Judaism
271. Women in the Biblical Tradition: Image and Role
273. Gender in Religion in the United States
367. Women and Sexuality in the Christian Tradition
380. Muslim World: Transformations and Continuities
634. Early Christian Asceticism

**Russian**

315. Women and Russian Literature
322S. Women in Contemporary Russian Society
512. Women and Russian Literature

**Sociology**

160. Advertising and Society: Global Perspective
211. Wealth, Power, and Inequality
218. Sex, Gender, and Society
349. Sexuality and Society
350. The Changing American Family
355. Organizations and Management

**Visual and Media Studies**

170. Advertising and Society: Global Perspective
298. Film Theory

**House Courses.** Women’s Studies regularly sponsors house courses. While house courses do not officially count toward the major or the minor, students are strongly encouraged to consider them as valuable supplements to full-credit courses. Lists of house courses are available in the program office at the beginning of each semester.

**THE MAJOR**

To major in women’s studies, a student must take a minimum of ten courses. Thinking Gender: An Introduction to Feminist Theory (Women’s Studies 199S) and a senior seminar (Women’s Studies 490S) are required, along with four of the following:

- 360S. Feminism in Historical Context
- 361. Money, Sex, Power
361S. Money, Sex, Power
362. Gender and Popular Culture
362S. Gender and Popular Culture
363S. Interpreting Bodies: Identity and Beyond
364S. Race, Gender, and Sexuality
365. Gender and Political Theory
366S. Nature, Culture and Gender
367S. Feminist Ethics
368S. Gender, Sexuality and Human Rights
369S. Transnational Feminism
370S. Queer Theory
371S. Gender, Sexuality, and the Image

The remaining four elective courses must be at or above the 200 level and may be chosen from other Women’s Studies offerings. Students may also petition for credit for courses offered in other departments and programs, with clear documentation of their intellectual value to the overall goals of the major. Students may take no more than two independent study courses, which must be approved by the Director of Undergraduate Studies.

Advising

Each year, faculty affiliated with women’s studies serve as advisors for students majoring in women’s studies. Majors are paired with faculty advisors on the basis of students’ general areas of interest. Students majoring in women’s studies are encouraged to seek out and work with any of the women’s studies faculty in addition to their primary faculty advisor.

Departmental Graduation with Distinction

Qualified students earning a major may be eligible for Graduation with Distinction in women’s studies. More detailed guidelines are available in the program office. Students interested in being considered for distinction should contact the program office no later than the spring of their junior year.

THE MINOR

For the minor, students complete five courses. Thinking Gender: An Introduction to Feminist Theory (Women’s Studies 199S) is required, along with two courses from the following:

360S. Feminism in Historical Context
361. Money, Sex, Power
361S. Money, Sex, Power
362. Gender and Popular Culture
362S. Gender and Popular Culture
363S. Interpreting Bodies: Identity and Beyond
364S. Race, Gender, and Sexuality
365. Gender and Political Theory
366S. Nature, Culture and Gender
367S. Feminist Ethics
368S. Gender, Sexuality and Human Rights
369S. Transnational Feminism
370S. Queer Theory
371S. Gender, Sexuality, and the Image

In addition, students choose two elective courses at or above the 200 level from other Women’s Studies offerings. Students may also petition for credit for courses offered in other departments and programs, with
clear documentation of their intellectual value to the overall goals of the major. Students may take no more than two independent study courses, which must be approved by the Director of Undergraduate Studies.

In addition to offering courses, and a major and minor representing a focus in women’s studies, the program sponsors lectures, films, discussions, conferences, and work-study opportunities. Additional information on courses, the women’s studies major or minor, and other opportunities in women’s studies is available at the Women’s Studies office, 210 East Duke Building, or on the Web site: http://womenstudies.duke.edu.

**Thompson Writing Program (WRITING)**

Associate Professor Neuschel, *Director*, Assistant Professor of the Practice Comer, *Director of First-Year Writing*; Assistant Professor of the Practice Moskovitz, *Director of Writing-in-the-Disciplines*; Assistant Professor of the Practice Rego, *Director of Faculty Development and Assessment*; Senior Lecturing Fellow Russell, *Director of the Writing Studio*; Lecturing Fellows Argondezzi, Berkey, Cagle, Caputo, Chernik, Cooke, Dueck, Eilbaum, Ennis, Erol, Kaufman, Kelly, Mantler, Middleton, Millar, Mullenneaux, Reilly, Rosa, Shah, Smith, Watkins, Wesolowski, and Wheeler

The Thompson Writing Program has three components: (1) the First-Year Writing Program (Writing 101), (2) the Writing-in-the-Disciplines Program, and (3) the Writing Studio, a tutorial service for undergraduates.

All undergraduates are required to complete Writing 101: Academic Writing in the fall or spring of their first year at Duke. They are also required to take two writing-designated courses in the disciplines. The Thompson Writing Program reviews these Writing-in-the-Disciplines courses and provides support for the faculty teaching them. The Writing Studio offers free tutoring to students working on writing for any course they are taking at Duke.

The various sections of Writing 101 are taught by an interdisciplinary faculty and focus on issues in the sciences, social sciences, or arts and humanities. While specific readings and writing assignments vary with the instructor, the aim of all sections is to introduce students to the practices of critical reading and writing that characterize university study.

**70. Introduction to Critical Reading and Writing.** Designed for students who seek more time and practice in reading and academic writing skills in order to meet the rigorous intellectual demands of Writing 101. Topics include reading comprehension; recognizing key ideas; creating theses; conducting research; structuring arguments; eliminating errors in grammar, mechanics, and diction; citing sources; and avoiding plagiarism. Recitation component includes small-group workshops and one-on-one tutoring. Writing 70 does not satisfy either the Writing 101 or the WID requirements. Permission of Director of First-Year Writing required. Instructor: Staff. Half course.

**75. Writing Workshop for Non-Native Speakers of English.** Designed to provide additional support for non-native speakers of English enrolled in Writing 101. Students will become familiar with writing texts that meet the expectations of American academic audiences while strengthening word usage, academic vocabulary, and grammar. Topics include: creating theses, articulating arguments, summarizing, paraphrasing and quoting, avoiding plagiarism, understanding citation conventions, and utilizing effective reading strategies. Focus on increasing awareness of the intercultural norms of academic writing. Does not satisfy the Writing 101, WID, or seminar requirements. Instructor permission required. Taken concurrently with Writing 101. 1.25 hours per week. Instructor: Caputo. Half course.

**101. Academic Writing.** Instruction in the complexities of producing sophisticated academic argument, with attention to critical analysis and rhetorical practices. Instructor: Staff. One course.

**190S. Special Topics: Writing in the Disciplines.** Topics vary by section. Topics course. Instructor: Staff. One course.

**293. Research Independent Study.** R, W Individual investigation, reading, and writing under the supervision of a faculty member leading to a substantial written document. Prerequisite: Writing 101. Consent of instructor and Director of the Thompson Writing Program required. Instructor: Staff. One course.
Pratt School of Engineering

Professor Katsouleas, Dean; Senior Associate Dean for Education Glass; Associate Deans Absher, Franzoni, and Simmons

- For courses in Engineering (Interdepartmental), see page 648.
- For courses in Biomedical Engineering, see page 651.
- For courses in Civil and Environmental Engineering, see page 660.
- For courses in Electrical and Computer Engineering, see page 670.
- For courses in Mechanical Engineering and Materials Science, see page 680.

Engineering (Interdepartmental) (EGR)

10. Introduction to Engineering. This course is designed to introduce students to the study and practice of engineering. Presentations will be made by representatives of all four engineering departments as well as outside practitioners, researchers, and industrial leaders. Selected group design and/or laboratory modules will be required of all participants. Satisfactory/Unsatisfactory grading only. Staff: Instructor. Half course.

20L. Engineering Innovation. Introduces freshmen to the process of team-based creative conceptualization, visualization prototyping, and product realization. Students use computer-aided design tools to create custom circuit boards and computer numerically controlled (CNC) machined components to produce prototype systems. Design concepts are introduced and supported through hands-on assignments. Instructor: Twiss and Simmons. One course.

25L. Introduction to Structural Engineering. An introduction to engineering and the engineering method through a wide variety of historical and modern case studies, ranging from unique structures like bridges to mass produced objects like pencils. Instructor: Petroski. One course.

31FCS. Engineering The Planet. This seminar examines the environmental impacts of large infrastructure from dam construction, to large-scale farming and irrigation, clear-cutting of natural forests, and extensive urbanization of land-margin ecosystems. Focus on the social and engineering make-up of global environmental change and water resources. Introduction to the science and technology of environmental adaptation and sustainability. Students will organize in small research groups working on trans-disciplinary case-studies. Instructor: Barros. One course.

32FCS. Mapping Engineering into Biology. NS, R, STS Students will be introduced to the new and exciting ways in which we can start to bring engineering and biology together. The course asks fundamental questions such as "How did Nature solve problem X?" and "What are the problems that Nature has?" and explore how to forward engineer new products and processes inspired by Nature's own solutions. The seminar will give students a foundation to achieve technological innovation through effective channeling of creativity and scientific principles. The class divides in teams and ranges of expertise and interest in biology, chemistry, physics, mathematics, and engineering are encouraged to join in. Instructor consent required. Instructors: Needham and Bonaventura. One course.

49S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

53L. Computational Methods in Engineering. QS Introduction to computer methods and algorithms for analysis and solution of engineering problems using numerical methods in a workstation environment. Topics include; numerical integration, roots of equations, simultaneous equation solving, finite difference methods, matrix analysis, linear programming, dynamic programming, and heuristic solutions used in engineering practice. This course does not require any prior knowledge of computer programming. Instructor: Gustafson. One course.

54L. Simulations in JAVA. Development of interactive computer simulations in JAVA using Reality.java, a library that includes graphical objects such as spaceships, planets, and standardized functions for Newtonian mechanics. Introduction to object-oriented programming, linked and inherited structures, and aspects of
computational mathematics such as stability and computational error, orbital mechanics, collision detection, strategy, etc. Prerequisite: Engineering 53L or Computer Science 6 or Computer Science 100E. Instructor: Staff. One course.

60. Science and Policy of Natural Catastrophes. NS, SS, STS In this interdisciplinary course students will conduct a life cycle analysis of a natural disaster. Invited experts will discuss meteorologic, hydrologic and geologic factors that cause disasters; explore how societies plan for and/or respond to the immediate and long-term physical, social, emotional and spiritual issues associated with survival; and present case studies of response, recovery and reconstruction efforts. Students will attend the lecture component of the course and complete on-line quizzes to demonstrate understanding of the material presented. Additionally, they will prepare on individual paper (~10 pages) on a relevant topic and one group paper, the results of which will be presented to the class. Instructor: Schaad. One course. C-L: Public Policy Studies 107, Environment 161

61. Natural Catastrophes: Rebuilding from Ruins. NS, SS, STS Research Service Learning Gateway course where students will conduct a life cycle analysis of natural disasters. Invited experts will discuss meteorologic, hydrologic and geologic factors that cause disasters; explore how societies plan and/or respond to the immediate and long-term physical, social, emotional and spiritual issues associated with survival; and present case studies of response, recovery and reconstruction efforts. Students will attend the lecture component of the course and complete on-line quizzes to demonstrate understanding of the material presented. For the service learning experience, students will carry out response activities over Spring Break in an area ravaged by a natural disaster. They will keep a journal (audio and written) of their activities, write a brief synopsis (4-5 pages), and make a group oral presentation of their findings following their return. They will also submit a hypothetical research proposal for a project which might stem from the course and their experiences. Instructor: Schaad. One course. C-L: Public Policy Studies 109, Environment 162

75L. Mechanics of Solids. Analysis of force systems and their equilibria as applied to engineering systems. Stresses and strains in deformable bodies; mechanical behavior of materials; applications of principles to static problems of beams, torsion members, and columns. Selected laboratory work. Prerequisites: Mathematics 32 and Physics 61L. Instructor: Albertson, Barros, Boadu, Dolbow, Gavin, Hueckel, Nadeau, or Virgin. One course.

75LA. Mechanics of Solids (1/2). Summer Session I ONLY. First half of a single course in solid mechanics that spans both summer sessions. Students must enroll in both EGR 75LA and EGR 75LB. (See course description for EGR 75L). Prerequisites: Mathematics 32 and Physics 61L. Instructor: Staff. Half course.

75LB. Mechanics of Solids (2/2). Summer Session II ONLY. Secon half of a single course in solid mechanics that spans both summer sessions. Students must enroll in both EGR 75LA and EGR 75LB. (See course description for EGR 75L). Prerequisites: EGR 75LA, Mathematics 32, and Physics 61L. Instructor: Staff. Half course.

95FCS. First Year seminar for Focus students only. NS, SS, STS Topics vary each semester offered. Focus students only. Instructor: staff. One course.

107. Mapping Engineering onto Biology. Introduction to concepts and implementation of Mapping Engineering onto Biology. Explores both a new learning paradigm as well as methodologies for reverse engineering biological systems. Uses a Bow-Tie Hierarchy of scale applying traditional design methodology in order to reverse engineer healthy functioning systems that represent Problems Nature Solved (Engineering Biology) and Problems Nature Has (i.e. we have in disease) (Engineering Pathology). Third (inventive) phase is to forward engineer new approaches to medicine or new technologies. Students in design teams of four, carry out course assignment that asks a different and interesting to the student, problem nature solved? Out-of-class open counseling with instructors and expert faculty across campus. Instructor: Needham. One course.

108S. Ethics in Professions: Scientific, Personal and Organizational Frameworks. EI, STS Ethics studied through the analysis and interpretation of case studies from the scientific and engineering professions. Topics include: moral development; concepts of truth and fairness; responsible conduct of research; the person and
virtues; confidentiality; risk and safety; social responsibility; etiology and consequences of fraud and malpractice; legal aspects of professionalism, and allocation of resources. The capstone course for students completing the certificate in the Program in Science, Technology, and Human Values. Instructor: Vallero. One course. C-L: Ethics, Global Health, Markets and Management Studies, Marine Science and Conservation

**115. Engineering Systems Optimization and Economics. SS** Introduction to mathematical optimization, engineering economic analysis, and other decision analysis tools used to evaluate and design engineering systems. Application of linear and nonlinear programming, dynamic programming, expert systems, simulation and heuristic methods to engineering systems design problems. Applications discussed include: production plant scheduling, water resources planning, design and analysis, vehicle routing, resource allocation, repair and rehabilitation scheduling and economic analysis of engineering design alternatives. Corequisite: Mathematics 107. Instructor: Peirce. One course. C-L: Economics 112

**119L. Electrical Fundamentals of Mechatronics.** Introduction to mechatronics with a special emphasis on electrical components, sensing, and information processing. Topics include circuit analysis and design, system response characterization, conversion between digital and analog signals, data acquisition, sensors, and motors. Laboratory projects focus on analysis, characterization, and design of electrical and mechatronic systems. Prerequisites: EGR 53L, EGR 75L, MATH 103, and PHYSICS 62L, or equivalents, or permission of instructor: Instructor: Gustafson. One course.

**123L. Dynamics.** Principles of dynamics of particles, rigid bodies, and selected nonrigid systems with emphasis on engineering applications. Kinematic and kinetic analysis of structural and machine elements in a plane and in space using graphical, computer, and analytical vector techniques. Absolute and relative motion analysis. Work-energy; impact and impulse-momentum. Laboratory experiments. Prerequisites: Engineering 75L and Mathematics 103 or consent of instructor. Instructor: Dowell, Hall, Mann, or Virgin. One course.

**150. Engineering Communication.** Principles of written and verbal technical communication; graphs, tables, charts and figures. Multimedia content generation and presentation. Individual and group written and verbal presentations. Prerequisite: Engineering 53L and Writing 20 or equivalent. Instructor: Kabala or Peirce. Half course.

**153. Numerical Computing for Engineers.** Numerical computing with applications for engineering in a C/ C++ language environment. Computer programs will be developed to implement numerical algorithms and solve engineering problems. Course topics include: solution of simultaneous sets of equations, eigenvalues, singular value decomposition, root-finding in non-linear equations, solution of ordinary differential equations, optimization, and spectral analysis. Prerequisites: Math 107 and either Engineering 53, Computer Science 6, Computer Science 100 or equivalent. Instructor: Staff. One course.

**165. Special Topics in Engineering.** Study arranged on special engineering topics in which the faculty have particular interest and competence as a result of research or professional activities. Consent of instructor(s) required. Quarter course, half course, or one course. Instructor: Staff. Variable credit.

**171. Total Quality Systems.** An interdisciplinary approach to principles and practice in the applications of total quality concepts to engineering operations and business managements; practice in using tools of statistical process control; practice in using quality tools of management and operations; principles of continuous quality improvement; definitions and applications of Total Quality Management (TQM); case studies; personal effectiveness habits and social styles; assignments and projects in team building using tools learned, communication; group problem solving; practice in professional verbal and written technical communications. Prerequisite: junior or senior standing. Instructor: Staff. One course.

**175. Aesthetics, Design, and Culture.** An examination of the role of aesthetics, both as a goal and as a tool, in a culture which is increasingly dependent on technology. Visual thinking, perceptual awareness, experiential learning, conceptual modeling, and design will be explored in terms of changes in sensory environment. Design problems will be formulated and analyzed through individual and group design projects. Instructor: Staff. One course. C-L: Visual and Media Studies 114A
176S. Global Climate Change. One course.

183. Projects in Engineering. Courses in which engineering projects of an interdisciplinary nature are undertaken. The projects must have engineering relevance in the sense of undertaking to meet human need through a disciplined approach under the guidance of a member of the engineering faculty. Consent of instructor required. Instructor: Staff. One course.

184. Projects in Engineering. Courses in which engineering projects of an interdisciplinary nature are undertaken. The projects must have engineering relevance in the sense of undertaking to meet human need through a disciplined approach under the guidance of a member of the engineering faculty. Consent of instructor required. Instructor: Staff. One course.

185. Smart Home Technology Development. Engineering projects related to the Duke Smart Home Program are undertaken. Projects should be interdisciplinary in nature and have engineering relevance in the sense of undertaking to meet human need through a disciplined approach under the guidance of a member of the engineering faculty. Consent of instructor is required. Instructor: Staff. 1/2 credit pass/fail course. Half course.

190L. Energy and Environment Design. An integrative design course addressing both creative and practical aspects of the design of systems related to energy and the environment. Development of the creative design process, including problem formulation and needs analysis, feasibility, legal, economic and human factors, environmental impacts, energy efficiency, aesthetics, safety, and design optimization. Application of design methods through a collaborative design project involving students from the Pratt School of Engineering and Trinity College. Open only to students pursuing the undergraduate certificate in Energy and Environment. Prerequisites: CE 24L, ENV 130 and ME 121. One course. One course.

Biomedical Engineering (BME)

Professor Truskey, Chair; Professor Neu, Director of Undergraduate Studies; Assistant Professor of the Practice Gimm, Associate Director of Undergraduate Studies; Professors R. Anderson, Barr, Chilkoti, Collins, Dewhirst, Erickson, Gauthier, Glower, Grill, Guilak, Henriquez, Izatt, Jaszczac, Johnson, Katz, Laursen, Leong, Lopez, Massoud, Myers, Needham, Neu, Nicolelis, Nolte, Reichert, Samei, Setton, Simon, Smith, Song, Toth, Trahey, Vo-Dinh, von Ramm, Warren, Yuan, and Zalutsky; Associate Professors Dobbins, Lobach, MacFall, Ramanujam, Sommer, Tornai, and Wolf; Assistant Professors Bursae, Gersbach, Idriss, K. Nightingale, Mukundan, Tian, Wax, Wong, and You; Professors Emeriti Burdick, Clark, Friedman, Hammond, Hochmuth, McElhaney, and Plonsey; Associate Research Professors Bass, R. Nightingale, and Turkington; Assistant Research Professors Bohs, Chen, Dahl, Henderson, Klitzman, Liu, Lo, and Palmeri; Professor of the Practice Malkin; Adjunct Professors Goldberg and Grinstaff.

A major is available in this department. The biomedical engineering program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Biomedical engineering is the discipline in which the physical, mathematical, and engineering sciences and associated technology are applied to biology and medicine. Contributions range from computer modeling and simulation of physiological systems through development of medical instrumentation and experimental research to solutions of practical clinical problems. The goal of the Biomedical Engineering Program at Duke University is to prepare students for a) professional employment in areas such as the medical device industry, engineering consulting, and biotechnology, b) graduate work in biomedical engineering, or c) entrance into medical school. The program is flexible to match the student’s interests. Options exist for dual majors and to provide specific knowledge in biomedical imaging and measurement systems, biomaterials and biomechanics, bioelectricity, and molecular, cellular and tissue engineering. Design experience is developed and integrated throughout the curriculum and includes capstone design courses. Many students gain valuable design

* Engineering and Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET)
111 Market Place, Suite 1050, Baltimore, MD 21202, telephone (410) 347-7700

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experience in the course of independent student projects within the research laboratories and programs of the BME department.

The undergraduate curriculum specifies that a student select one of four Areas of Interest in which to obtain depth in their education. The Areas of Interest are matched to the laboratories and expertise of the faculty in the Department; they are: Bioelectricity, Biomaterials and Biomechanics, Molecular Cellular and Tissue Engineering, and Imaging and Measurement Systems.

Biomedical engineering in bioelectricity involves the use of large-scale computer modeling, scientific visualization, and experimental data acquisition and analysis of electrical activity in the brain and heart tissue to increase basic understanding of normal and abnormal behavior. Other projects involve the study of the effects of externally applied electric fields and radio frequency energy on activity in excitable tissue.

The ultrasound imaging and transducer laboratories are directed toward new signal and image processing techniques, new system architecture and transducer designs to develop novel imaging methods and improve image quality and spatial resolution. The laboratories are equipped with a variety of state-of-the-art ultrasound imaging instruments, electronics and transducer fabrication tools, acoustic and transducer modeling software as well as video and display hardware.

The biophotonics group develops novel photonics technologies for biological and medical applications. Research areas include optical imaging techniques, advanced spectroscopy methods, plasmonics applications, and new microscopy modalities. Applications span from cell and developmental biology to clinical diagnostics and imaging methods.

The biomechanics laboratories use advanced experimental test facilities, data acquisition technologies, computer simulations and theoretical modeling in the study of cells, tissues, and biological structures. The mechanisms of injury, aging, degeneration, and mechanical signal transduction are studied in a variety of biological systems, including biological fluids, the cervical and lumbar spines, diarthrodial joints, and the heart.

Molecular, cellular and tissue engineering is concerned with the regulation of the external and internal cellular environment of the cell for control of biosynthesis and degradation activities, as well as determination of the factors responsible for differentiation of cells into tissues with varying functional requirements. The groups in this program investigate biomaterials, material property characterizations, surface modifications, cell cultures, and the mechanics of biofluids, tissues, and cells. Applications include the development of novel biosensors and drug delivery systems, new techniques for enhanced biological transport, and improved techniques for stimulated repair or inhibited degradation of biological tissues.

Instruction in all these areas is offered at the undergraduate as well as graduate and postdoctoral levels, and opportunities for undergraduate student research are available in most of the biomedical engineering laboratories. The courses offered by the Department of Biomedical Engineering are listed below. Some biomedical engineering courses require students to have a suitable laptop computer with wireless capabilities.

Course Designators:
(C) Satisfies an Area Core Class
(D) Satisfies the Design requirement
(G) Satisfies a General BME Elective
(BB) Satisfies a Biomechanics and Biomaterials Area Elective
(MC) Satisfies a Molecular, Cellular and Tissue Engineering Area Elective
(EL) Satisfies a Bioelectricity Area Elective
(IM) Satisfies an Imaging and Measurement Systems Area Elective

98. Biomedical Device Design (GE). An introduction to the origin and characteristics of biologic signals and the features of biomedical systems and devices, from sensor to display/output. Concepts of analog vs. discrete signals, simple detection schemes, sampling, data reduction, filtering, visualization, and imaging techniques
are presented. The course emphasizes team project and system design. Prerequisite: Engineering 110L or equivalent; limited to freshmen. Instructor: Henriquez or K. Nightingale. One course.

244L. Quantitative Physiology. An examination of the importance of transport processes, mechanics, energetics, and electrical activity in physiological systems. Topics will cover cellular physiology, the cardiovascular system, nervous system, muscle physiology, and renal physiology. Selected labs to complement lectures and class discussion. Prerequisite: BIO 101L, Corequisite: Math 103. Instructor: Truskey. One course.

253L. Biomedical Electronic Measurements I. Basic principles of electronic instrumentation with biomedical examples. Concepts of analog signal processing, filters, input and output impedances are emphasized. Students are exposed to system design concepts such as amplifier design and various transducers. Laboratories reinforce basic concepts and offer the student design opportunities in groups. Prerequisite: Physics 152L; or consent of instructor. Instructor: Grill, Izatt, Malkin, K. Nightingale, or von Ramm. One course.

255. Safety of Medical Devices (GE, IM). Engineering analysis of the safety of medical devices such as prosthetic heart valves, silicon breast implants, medical imaging, and cardiac pacemakers. Engineering performance standards and US FDA requirements for clinical trials for selected medical devices such as medical diagnostic ultrasound, surgical lasers, and prosthetic heart valves. Students will prepare a mock application for FDA premarket approval to demonstrate safety of a selected medical device. Prerequisite: sophomore standing; corequisite: Physics 152L or equivalent. Instructor: S. Smith. One course.

260L. Modeling Cellular and Molecular Systems. An introduction to the application of engineering models to study cellular and molecular processes and develop biotechnological applications. Topics covered include chemical equilibrium and kinetics, solution of differential equations, enzyme kinetics, DNA denaturation and rebinding, the polymerase chain reaction (PCR), repressor binding, gene expression, receptor-mediated endocytosis, and gene delivery to tissues and cells. Selected laboratory experiments apply concepts learned in class. Prerequisites: Mathematics 212 and Biology 25L or equivalent; or consent of the instructor. Instructor: Gimm, Tian, Truskey, You, or Yuan. One course.

271. Signals and Systems. Convolution, deconvolution, Fourier series, Fourier transform, sampling, and the Laplace transform. Continuous and discrete formulations with emphasis on computational and simulation aspects and selected biomedical examples. Prerequisites: Biomedical Engineering 253L or Electrical and Computer Engineering 230L and Mathematics 216; or consent of the instructor. Instructor: Barr, Izatt, or Neu. One course.

290. Intermediate Topics (GE). Intermediate subjects or selective topics related to programs within biomedical engineering. Consent of instructor required. Instructor: Staff. One course.

301L. Electrophysiology (AC or GE). The electrophysiology of excitable cells from a quantitative perspective. Topics include the ionic basis of action potentials, the Hodgkin-Huxley model, impulse propagation, source-field relationships, and an introduction to functional electrical stimulation. Students choose a relevant topic area for detailed study and report. Not open to students who have taken Biomedical Engineering 101L or equivalent. Instructor: Barr, Bursac, Grill, Henriquez, or Neu. One course. C-L: Neuroscience 301L

302L. Fundamentals of Biomaterials and Biomechanics (AC or GE). This course will cover principles of physiology, materials science and mechanics with particular attention to topics most relevant to biomedical engineering. Areas of focus include the structure-functional relationships of biocomposites including biological tissues and biopolymers; extensive treatment of the properties unique to biomaterials surfaces; behavior of materials in the physiological environment, and biomechanical failure criterion. The course includes selected experimental measurements in biomechanical and biomaterial systems. Prerequisites: Mathematics 353; Engineering 201L or Biomedical Engineering 110L; Mechanical Engineering 221L or Biomedical Engineering 83L. Instructor: Staff. One course.
303. Modern Diagnostic Imaging Systems (AC or GE). The underlying concepts and instrumentation of several modern medical imaging modalities. Review of applicable linear systems theory and relevant principles of physics. Modalities studied include X-ray radiography (conventional film-screen imaging and modern electronic imaging), computerized tomography (including the theory of reconstruction), and nuclear magnetic resonance imaging. Prerequisite: Biomedical Engineering 271, junior or senior standing. Consent of instructor required. Instructor: Smith or Trahey. One course. C-L: Modeling Biological Systems

307. Transport Phenomena in Biological Systems (AC or GE, BB). An introduction to the modeling of complex biological systems using principles of transport phenomena and biochemical kinetics. Topics include the conservation of mass and momentum using differential and integral balances; rheology of Newtonian and non-Newtonian fluids; steady and transient diffusion in reacting systems; dimensional analysis; homogeneous versus heterogeneous reaction systems. Biomedical and biotechnological applications are discussed. Prerequisites: Biomedical Engineering 260L and Mathematics 353; or consent of the instructor. Instructor: Friedman, Katz, Truskey, or Yuan. One course. C-L: Civil and Environmental Engineering 307, Mechanical Engineering and Materials Science 307, Modeling Biological Systems

354L. Biomedical Electronic Measurements II. Further study of the basic principles of biomedical electronics with emphasis on transducers, instruments, micro-controller and PC based systems for data acquisition and processing. Laboratories focus on measurements and circuit design emphasizing design criteria appropriate for biomedical instrumentation. Prerequisite: Electrical and Computer Engineering 230L or Biomedical Engineering 253L and Biomedical Engineering 271 or Electrical and Computer Engineering 280L; or the consent of the instructor. Instructor: Malkin, Trahey, Wax, or Wolf. One course.

385. Introduction to Business in Technology-Based Companies. R, SS, STS This course covers fundamental business concepts and how they affect technology and engineering functions in a company. Students will learn to look at business problems from multiple dimensions, integrating technical issues with marketing, finance, management and intellectual property. Teams consisting of students from the Pratt School of Engineering and Trinity College of Arts and Sciences (Markets and Management Studies program) will work together to develop and present a business plan for a technical product concept. Students will learn the elements of a business plan and how to pitch a technology-based product concept. Topics covered include marketing of technical products, competitive strategy, market research, financial statements and projections, capital budgeting, venture capital, intellectual property, patent searching, regulatory affairs, and reimbursement. Requirements: Junior or Senior standing and permission of instructor. One course. Instructor: Boyd. One course.

394. Projects in Biomedical Engineering (GE). For juniors and seniors who express a desire for such work and who have shown aptitude for research in one area of biomedical engineering. Reserved for Engineering Undergraduate Fellows. Consent of program director required. Instructor: Staff. One course.

427L. Design in Biotechnology (DR or GE, MC, BB). Design of custom strategies to address real-life issues in the development of biocompatible and biomimetic devices for biotechnology or biomedical applications. Student teams will work with a client in the development of projects that incorporate materials science, biological transport and biomechanics. Formal engineering design principles will be emphasized; overview of intellectual properties, engineering ethics, risk analysis, safety in design and FDA regulations will be reviewed. Oral and written reports, and prototype development will be required. This course is intended as a capstone design course for the upper-level undergraduate biomedical engineering students with a focused interest in bimolecular science, biotechnology, transport, drug delivery, biomechanics and related disciplines. Prerequisites: Biomedical Engineering 307, Statistical Science 130, or equivalent. Instructors: Gimm. One course.

436L. Biophotonic Instrumentation (DR or GE, IM). Theory and laboratory practice in optics, and in the design of optical instruments for biomedical applications. Section I focuses on basic optics theory and laboratory practice. Section II focuses on deeper understanding of selected biophotonic instruments, including laboratory work. Section III comprises the design component of the course. In this part, student teams are
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presented with a design challenge, and work through the steps of engineering design culminating in building a prototype solution to the design challenge. Lecture topics include engineering design, intellectual property protection, engineering ethics, and safety. Prerequisites: Biomedical Engineering 354L and Statistical Science 130. Instructor: Izatt or Wax. One course.

460L. Devices for People with Disabilities (DR or GE, IM, BB). Design of custom devices to aid disabled individuals. Students will be paired with health care professionals at local hospitals who will supervise the development of projects for specific clients. Formal engineering design principles will be emphasized; overview of assistive technologies, patent issues, engineering ethics. Oral and written reports will be required. Selected projects may be continued as independent study. Prerequisite: Biomedical Engineering 354L and Statistical Science 130. Instructor: Bohs or Goldberg. One course.

461L. Electronic Designs for the Developing World (DR or GE, IM). Design of custom devices to help the specific and unique needs of developing world hospitals. Formal engineering design principles will be emphasized; overview of developing world conditions, patent issues, engineering ethics. Designs must be based on microcontroller or equivalent electronic circuitry. Oral and written reports will be required. Students may elect to personally deliver their projects to a developing world hospital, if selected, in the summer following the course. Prerequisites: Biomedical Engineering 354L and Statistics 130. Consent of instructor required. Instructor: Malkin. One course.

462L. Design for the Developing World (DR or GR). Design of custom devices to help the specific and unique needs of developing world hospitals. Formal engineering design principles will be emphasized; overview of developing world conditions, patent issues, engineering ethics. Oral and written reports will be required. Students may elect to personally deliver their projects to a developing world hospital, if selected, in the summer following the course. Prerequisite: Biomedical Engineering 354L and Statistical Science 130. Instructor: Malkin. One course.

464L. Medical Instrument Design (DR or GE, IM). General principles of signal acquisition, amplification processing, recording, and display in medical instruments. System design, construction, and evaluation techniques will be emphasized. Methods of real-time signal processing will be reviewed and implemented in the laboratory. Each student will design, construct, and demonstrate a functional medical instrument and collect and analyze data with that instrument. Formal write-ups and presentations of each project will be required. Prerequisite: Biomedical Engineering 354L and Statistical Science 130, or equivalent or senior standing. Instructor: Malkin, S. Smith, Trahey, or Wolf. One course.

493. Projects in Biomedical Engineering (GE). For juniors and seniors who express a desire for such work and who have shown aptitude for research in one area of biomedical engineering. Consent of instructor required. Instructor: Staff. One course.

494. Projects in Biomedical Engineering (GE). For juniors or seniors who express a desire for such work and who have shown aptitude for research in one area of biomedical engineering. Consent of instructor required. Instructor: Staff. One course.

502. Neural Signal Acquisition (GE, IM, EL). This course will be an exploration of analog and digital signal processing techniques for measuring and characterizing neural signals. the analog portion will cover electrodes, amplifiers, filters and A/D converters for recording neural electrograms and EEGs. The digital portion will cover methods of EEG processing including spike detection and spike sorting. A course pack of relevant literature will be used in lieu of a textbook. Students will be required to write signal-processing algorithms. Prerequisite: Biomedical Engineering 354L. Instructor: Wolf. One course. C-L: Neuroscience 502

503. Computational Neuroengineering (GE, EL). This course introduces students to the fundamentals of computational modeling of neurons and neuronal circuits and the decoding of information from populations of spike trains. Topics include: integrate and fire neurons, Spike Response Models, Homogeneous and Inhomogeneous Poisson processes, neural circuits, Weiner (optimal), Adaptive Filters, neural networks for classification, population vector coding and decoding. Programming assignments and projects will be carried
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out using MATLAB. Prerequisites: Biomedical Engineering 101/201 or equivalent. Instructor: Henriquez. One course. C-L: Neuroscience 503

504. Fundamentals of Electrical Stimulation of the Nervous System (GE, EL). This course presents a quantitative approach to the fundamental principles, mechanisms, and techniques of electrical stimulation required for non-damaging and effective application of electrical stimulation. Consent of instructor required. Instructor: Grill. One course.

506. Measurement and Control of Cardiac Electrical Events (GE, IM, EL). Design of biomedical devices for cardiac application based on a review of theoretical and experimental results from cardiac electrophysiology. Evaluation of the underlying cardiac events using computer simulations. Examination of electrodes, amplifiers, pacemakers, and related computer apparatus. Construction of selected examples. Prerequisites: Biomedical Engineering 101L and 253L or equivalents. Instructor: Wolf. One course.

511. Theoretical Electrophysiology (GE, EL). Advanced topics on the electrophysiological behavior of nerve and striated muscle. Source-field models for single-fiber and fiber bundles lying in a volume conductor. Forward and inverse models for EMG and ENG. Bidomain model. Model and simulation for stimulation of single-fiber and fiber bundle. Laboratory exercises based on computer simulation, with emphasis on quantitative behavior and design. Readings from original literature. Prerequisite: Biomedical Engineering 101L or 301L or equivalent. Instructor: Barr or Neu. One course. C-L: Neuroscience 511

512L. Theoretical Electrocardiography (GE, EL). Electrophysiological behavior of cardiac muscle. Emphasis on quantitative study of cardiac tissue with respect to propagation and the evaluation of sources. Effect of junctions, inhomogeneities, anisotropy, and presence of unbounded extracellular space. Bidomain models. Study of models of arrhythmia, fibrillation, and defibrillation. Electrocardiographic models and forward simulations. Laboratory exercises based on computer simulation, with emphasis on quantitative behavior and design. Readings from original literature. Prerequisite: Biomedical Engineering 101L or 301L or equivalent. Instructor: Barr. One course.

513. Nonlinear Dynamics in Electrophysiology. Electrophysiological behavior of excitable membranes and nerve fibers examined with methods of nonlinear dynamics. Phase-plane analysis of excitable membranes. Limit cycles and the oscillatory behavior of membranes. Phase resetting by external stimuli. Critical point theory and its applications to the induction of rotors in the heart. Theory of control of chaotic systems and stabilizing irregular cardiac rhythms. Initiation of propagation of waves and theory of traveling waves in a nerve fiber. Laboratory exercises based on computer simulations, with emphasis on quantitative behavior and design. Readings from original literature. Prerequisite: Biomedical Engineering 101L or 301L or equivalent. Instructor: Krassowska. One course.

515. Neural Prosthetic Systems. This course will cover several systems that use electrical stimulation or recording of the nervous system to restore function following disease or injury. For each system the course will cover the underlying biophysical basis for the treatment, the technology underlying the treatment, and the associated clinical applications and challenges. Systems to be covered include cochlear implants, spinal cord stimulation of pain, vagus nerve stim. for epilepsy, deep brain stim. for movement disorders, sacral root stim. for bladder dysfunction, and neuromuscular electrical stim. for restoration of movement. Prerequisites: Biomedical Engineering 101L, Biomedical Engineering 253L, and consent of instructor. Instructor: Grill. One course.

516. Computational Methods in Biomedical Engineering (GE). Introduction to practical computational methods for data analysis and simulation with a major emphasis on implementation. Methods include numerical integration and differentiation, extrapolation, interpolation, splining FFTs, convolution, ODEs, and simple one- and two-dimensional PDEs using finite differencing. Introduction to concepts for optimizing codes on a CRAY-YMP. Examples from biomechanics, electrophysiology, and imaging. Project work included and students must have good working knowledge of Unix, Fortran, or C. Intended for graduate students and seniors who plan on attending graduate school. Prerequisite: Engineering 110L or equivalent,
Mathematics 216 or equivalent, or consent of instructor. Instructor: Henriquez. One course. C-L: Modeling Biological Systems

517. Neuronal Control of Movement. This course will discuss the neural control of movement in detail, including motor control theory, planning of movement in the cortex, relay of motor commands to the brainstem and spinal cord, coordination of movement by the cerebellum, adjustment of movement via brainstem and spinal cord reflexes, and execution of movement through contraction of muscle fibers. Prerequisite: Consent of Instructor. C-L Neuroscience 507. Instructor: Sommer. C-L: Neuroscience 507

522L. Introduction to Bionanotechnology Engineering. A general overview of nanoscale science/physical concepts will be presented as those concepts tie in with current nanoscience and nanomedicine research. Students will be introduced to the principle that physical scale impacts innate material properties and modulates how a material interacts with its environment. Important concepts such as surface-to-volume ratio, friction, electronic/optical properties, self-assembly (biological and chemical) will be contextually revisited. A number of laboratory modules ("NanoLabs") will guide students through specific aspects of nanomedicine, nanomaterials, and engineering design. Prerequisites: Biomedical Engineering 83L and Biomedical Engineering 260L or consent of instructor. One course.

525. Biomedical Materials and Artificial Organs (GE, BB). Chemical structures, processing methods, evaluation procedures, and regulations for materials used in biomedical applications. Applications include implant materials, components of ex vivo circuits, and cosmetic prostheses. Primary emphasis on polymer-based materials and on optimization of parameters of materials which determine their utility in applications such as artificial kidney membranes and artificial arteries. Prerequisite: Biomedical Engineering 83L and 260L or their equivalent or consent of instructor. Instructor: Reichert. One course. C-L: Mechanical Engineering and Materials Science 518

526. Elasticity (GE, BB). Linear elasticity will be emphasized including concepts of stress and strain as second order tensors, equilibrium at the boundary and within the body, and compatibility of strains. Generalized solutions to two and three dimensional problems will be derived and applied to classical problems including torsion of noncircular sections, bending of curved beams, stress concentrations and contact problems. Applications of elasticity solutions to contemporary problem in civil and biomedical engineering will be discussed. Prerequisites: Biomedical Engineering 110L or Engineering 201L; Mathematics 353. Instructor: Laursen. One course. C-L: Mechanical Engineering and Materials Science 518

527. Cell Mechanics and Mechanotransduction. This course examines the mechanical properties of cells and forces exerted by cells in biological processes of clinical and technological importance and the processes by which mechanical forces are converted into biochemical signals and activate gene expression. Topics covered include measurement of mechanical properties of cells, cytoskeleton mechanics, models of cell mechanical properties, cell adhesion, effects of physical forces on cell function, and mechanotransduction. Students will critically evaluate current literature and analyze models of cell mechanics and mechanotransduction. Prerequisites: Engineering 201L and Biomedical Engineering 307 or equivalent, knowledge of cell biology and instructor consent. Instructor: Truskey. One course.

528. Introduction to Biofluid Mechanics. Methods and applications of fluid mechanics in biological and biomedical systems including: Governing equations and methods of solutions, (e.g. conservation of mass flow and momentum), the nature of biological fluids, (e.g. non Newtonian rheological behavior), basic problems with broad relevance, (e.g. flow in pipes, lubrication theory), applications to cells and organs in different physiological systems, (e.g. cardiovascular, gastrointestinal, respiratory, reproductive and musculoskeletal systems), applications to diagnosis and therapy, (e.g. drug delivery and devices). Prerequisite: Biomedical Engineering 307. Instructor: Katz. One course.

529. Theoretical and Applied Polymer Science (GE, BB). One course. C-L: see Mechanical Engineering and Materials Science 514
530. Tissue Biomechanics (GE, BB). Introduction to the mechanical behaviors of biological solids and fluids with application to tissues, cells and molecules of the musculoskeletal and cardiovascular systems. Topics to be covered include static force analysis and optimization theory, biomechanics of linearly elastic solids and fluids, anisotropic behaviors of bone and fibrous tissues, blood vessel mechanics, cell mechanics and behaviors of single molecules. Emphasis will be placed on modeling stress-strain relations in these tissues, and experimental devices used to measure stress and strain. Student seminars on topics in applied biomechanics will be included. Prerequisites: Biomedical Engineering 110L or Engineering 201L; Mathematics 353. Instructor: Myers or Setton. One course.

531. Intermediate Biomechanics (GE, BB). Introduction to solid and orthopaedic biomechanical analyses of complex tissues and structures. Topics to be covered include: spine biomechanics, elastic modeling of bone, linear and quasi-linear viscoelastic properties of soft tissue (for example, tendon and ligament), and active tissue responses (for example, muscle). Emphasis will be placed on experimental techniques used to evaluate these tissues. Student seminars on topics in applied biomechanics will be included. Prerequisites: Biomedical Engineering 110L or Engineering 201L; Mathematics 353. Instructor: Myers or Setton. One course.

542. Principles of Ultrasound Imaging (GE, IM). Propagation, reflection, refraction, and diffraction of acoustic waves in biologic media. Topics include geometric optics, physical optics, attenuation, and image quality parameters such as signal-to-noise ratio, dynamic range, and resolution. Emphasis is placed on the design and analysis of medical ultrasound imaging systems. Prerequisites: Mathematics 216 and Physics 152L. Instructor: von Ramm. One course.

545. Acoustics and Hearing (GE, IM). The generation and propagation of acoustic (vibrational) waves and their reception and interpretation by the auditory system. Topics under the heading of generation and propagation include free and forced vibrations of discrete and continuous systems, resonance and damping, and the wave equation and solutions. So that students may understand the reception and interpretation of sound, the anatomy and physiology of the mammalian auditory system are presented; and the mechanics of the middle and inner ears are studied. Prerequisites: Biomedical Engineering 271 or equivalent and Mathematics 216. Instructor: Collins or Trahey. One course. C-L: Electrical and Computer Engineering 584

550. Modern Microscopy (GE, IM). Overview of novel microscopy techniques that are under development in research laboratories. New techniques are placed in context with basic understanding of image formation in conventional microscopy and laboratory work which applies this knowledge. A group project offers opportunity to examine special topics of interest. Prerequisite: Biomedical Engineering 354L or graduate standing. Instructor: Wax. One course.

560. Molecular Basis of Membrane Transport (GE, MC, EL). Transport of substances through cell membranes examined on a molecular level, with applications of physiology, drug delivery, artificial organs and tissue engineering. Topics include organization of the cell membrane, membrane permeability and transport, active transport and control of transport processes. Assignments based on computer simulations, with emphasis on quantitative behavior and design. Prerequisites: Biology 25L or equivalent, Mathematics 216 or equivalent. Instructors: Friedman or Neu. One course. C-L: Neuroscience 560

561L. Genome Science and Technology Lab (GE, MC). Hands-on experience on using and developing advanced technology platforms for genomics and proteomics research. Experiments may include nucleic acid amplification and quantification, lab-on-chip, bimolecular separation and detection, DNA sequencing, SNP genotyping, microarrays, and synthetic biology techniques. Laboratory exercises and designing projects are combined with lectures and literature reviews. Prior knowledge in molecular biology and biochemistry is required. Instructor consent required. Instructor: Tian. Variable credit. C-L: Computational Biology and Bioinformatics 561L, Genome Sciences and Policy

565L. Environmental Molecular Biotechnology (GE, MC). One course. C-L: Civil and Environmental Engineering 661L
566. **Transport Phenomena in Cells and Organs (GE, MC)**. Applications of the principles of mass and momentum transport to the analysis of selected processes of biomedical and biotechnological interest. Emphasis on the development and critical analysis of models of the particular transport process. Topics include: reaction-diffusion processes, transport in natural and artificial membranes, dynamics of blood flow, pharmacokinetics, receptor-mediated processes and macromolecular transport, normal and neoplastic tissue. Prerequisite: Biomedical Engineering 307 or equivalent. Instructor: Truskey or Yuan. One course.

567. **Biosensors (GE, IM, MC)**. Biosensors are defined as the use of biospecific recognition mechanisms in the detection of analyte concentration. The basic principles of protein binding with specific reference to enzyme-substrate, lectin-sugar, antibody-antigen, and receptor-transmitting binding. Simple surface diffusion and absorption physics at surfaces with particular attention paid to surface binding phenomena. Optical, electrochemical, gravimetric, and thermal transduction mechanisms which form the basis of the sensor design. Prerequisites: Biomedical Engineering 83L and 260L or their equivalent and consent of instructor. Instructor: Reichert or Vo-Dinh. One course.

568. **Laboratory in Cellular and Biosurface Engineering (GE, MC)**. Introduction to common experimental and theoretical methodologies in cellular and biosurface engineering. Experiments may include determination of protein and peptide diffusion coefficients in alginate beads, hybridoma cell culture and antibody production, determination of the strength of cell adhesion, characterization of cell adhesion or protein adsorption by total internal reflection fluorescence, and Newtonian and non-Newtonian rheology. Laboratory exercises are supplemented by lectures on experiment design, data analysis, and interpretation. Prerequisites: Biomedical Engineering 307 or equivalent. Instructor: Truskey. One course.

569. **Cell Transport Mechanisms (GE, MC)**. Analysis of the migration of cells through aqueous media. Focus on hydrodynamic analysis of the directed self-propulsion of individual cells, use of random walk concepts to model the nondirected propulsion of individual cells, and development of kinetic theories of the migrations of populations of cells. Physical and chemical characteristics of the cells' environments that influence their motion, including rheologic properties and the presence of chemotactic, stimulatory, or inhibitory factors. Cell systems include mammalian sperm migration through the female reproductive tract, protozoa, and bacteria. Emphasis on mathematical theory. Experimental designs and results. Prerequisites: Biomedical Engineering 307 and consent of instructor. Instructor: Katz. One course.

570L. **Introduction to Biomolecular Engineering (GE, BB, MC)**. Structure of biological macromolecules, recombinant DNA techniques, principles of and techniques to study protein structure-function. Discussion of biomolecular design and engineering from the research literature. Linked laboratory assignments to alter protein structure at the genetic level. Expression, purification, and ligand-binding studies of protein function. Consent of instructor required. Instructor: Chilkoti. One course.

571L. **Biotechnology and Bioprocess Engineering (GE, BB, MC)**. Introduction to the engineering principles of bioprocess engineering. Topics include: introduction to cellular and protein structure and function; modeling of enzyme kinetics, DNA transcription, metabolic pathways, cell and microbial growth and product formation; bioprocess operation, scale-up, and design. Class includes a design project. A modern biotechnology process or product is identified, the specific application and market are described (for example, medical, environmental, agricultural) along with the engineering elements of the technology. Prerequisite: Biomedical Engineering 83L or Mechanical Engineering 221L. Instructor: Chilkoti or Reichert. One course.

574. **Modeling and Engineering Gene Circuits**. This course discusses modeling and engineering gene circuits, such as prokaryotic gene expression, cell signaling dynamics, cell-cell communication, pattern formation, stochastic dynamics in cellular networks and its control by feedback or feedforward regulation, and cellular information processing. The theme is the application of modeling to explore "design principles" of cellular networks, and strategies to engineer such networks. Students need to define an appropriate modeling project. At the end of the course, they're required to write up their results and interpretation in a research-paper style report and give an oral presentation. Prerequisites: Biomedical Engineering 260L or consent of instructor. Instructor: You. One course.
577. **Drug Delivery (GE, BB, MC).** Introduction to drug delivery in solid tumors and normal organs (for example, reproductive organs, kidney, skin, eyes). Emphasis on quantitative analysis of drug transport. Specific topics include: physiologically-based pharmacokinetic analysis, microcirculation, network analysis of oxygen transport, transvascular transport, interstitial transport, transport across cell membrane, specific issues in the delivery of cells and genes, drug delivery systems, and targeted drug delivery. Prerequisite: Biomedical Engineering 307 and Engineering 53. Instructor: Yuan. One course.

578. **Tissue Engineering (GE, MC).** This course will serve as an overview of selected topics and problems in the emerging field of tissue engineering. General topics include cell sourcing and maintenance of differentiated state, culture scaffolds, cell-biomaterials interactions, bioreactor design, and surgical implantation considerations. Specific tissue types to be reviewed include cartilage, skin equivalents, blood vessels, myocardium and heart valves, and bioartificial livers. Prerequisites: Mathematics 353 or consent of instructor. Instructor: Bursac. One course.

590. **Advanced Topics in Biomedical Engineering.** Advanced subjects related to programs within biomedical engineering tailored to fit the requirements of a small group. Consent of instructor required. Instructor: Staff. One course.

590L. **Advanced Topics with Lab.** To be used as a "generic" course number for any advanced topics course with lab sections. Instructor: Staff. One course.

**THE MAJOR**

The major requirements are included in the minimum total of thirty-four courses listed under general requirements and departmental requirements. The following specific courses or their approved alternatives must be included: Biomedical Engineering 100, 153, 154, 171; two Area of Interest Core classes: (Biomedical Engineering 201L, 202L, 207, 233); two electives from one selected Area of Interest (BB, MC, EL, or IM); two general (G) BME electives; and one Biomedical Engineering design course (D) (Biomedical Engineering 227L, 236L, 260L, 261L, 262L, 264L).

**Civil and Environmental Engineering (CEE)**

Professor Albertson, Chair; Associate Professor of the Practice Schaad, Associate Chair; Associate Professor of the Practice Nadeau, Director of Undergraduate Studies; Professors Albertson, Barros, Deshusses, Di Giulio, Dolbow, Haff, Hinton, Laursen, Katul, Malin, Hueckel, Oren, Porporato, Richardson, Trangenstein, Vengosh, Virgin, and Wiesner; Associate Professors Boadu, Ferguson, Gavin, Kabala, Kasibhatla, Mann, and Peirce; Assistant Professors Khlystov, Hsu-Kim, Gunsch, and Scruggs; Professors Emeriti Brown and Wilson; Associate Professors of the Practice Nadeau and Schaad; Adjunct Associate Professor Vallero; Lecturer Brasier

A major is available in this department. The civil engineering program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.*

The infrastructure that makes up what we refer to as civilization is, for the most part, the work of civil and environmental engineers. Improving, or even maintaining, the quality of life is ever more challenging as urban problems in the industrialized nations of the world intensify, while rapid urbanization in many developing countries creates other opportunities and obligations for the civil and environmental engineer. The planning, design, construction, and maintenance of necessary facilities, in an era of increasingly scarce monetary and other resources, demand civil and environmental engineers dedicated to work for the public good and prepared to seek more efficient and effective solutions based on current technology. The challenges faced by civil and environmental engineers vary widely in nature, size, and scope, and encompass both the public and private sectors. Examples include: high-rise buildings and long-span bridges; concert halls and

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* Engineering and Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET)
  111 Market Place, Suite 1050, Baltimore, MD 21202, telephone (410)347-7700
museums; hazardous waste disposal facilities; orbital structures; water supply and treatment facilities; tunnels; dams; seaports, airports, and offshore structures.

The mission of the undergraduate program in the Department of Civil and Environmental Engineering at Duke University is to provide an education that prepares graduates to solve technical problems, to pursue life-long learning in their field, to assume leadership roles in their chosen careers, and to recognize their professional and personal obligations to the broader society and culture. The program is designed to provide a holistic educational experience where engineering sciences and design are combined with humanities and social sciences to provide the foundation for the critical thinking and skills that allow graduates to enjoy the benefits of a liberal education.

The goals of the program are to position our graduates to:

• use their knowledge and understanding of engineering sciences and design to advance their professional career;
• think critically when solving and managing tasks;
• communicate effectively in multidisciplinary, professional environments;
• exercise professional responsibility and sensitivity in the context of the social, economic, ethical, and environmental implications of their engineering work;
• function effectively and efficiently as an individual and as a part of a team; and
• pursue life-long learning to earn relevant professional credentials (for example, licensure, professional or graduate degrees).

Students may pursue a degree program in civil engineering coupled with a double major in another department at Duke. Examples of recently completed double majors reflect the breadth of interests shared by civil and environmental engineering students at Duke; public policy studies, economics, French, mathematics, and music. A certificate program in architectural engineering is also available.

The civil and environmental engineering program is built upon the expertise and experience of the faculty and is supported by commensurate laboratory and instructional facilities. The civil and environmental engineering professors are committed to providing quality classroom instruction, advising, and laboratory experiences in settings that encourage student-faculty as well as student-student interactions. The faculty conducts research of national and international consequence, and undergraduates have ample opportunities to be involved in such research, through undertaking independent study projects and/or by working as research assistants. The research facilities in the department, including laboratory equipment and instrumentation as well as computer resources, are comparable to those found in other major universities.

Graduates of the Department of Civil and Environmental Engineering are able to select from a wide range of career paths. Recent graduates have pursued advanced study in engineering, business, law, and architecture, while others have accepted positions with major corporations and federal, state, and local government agencies as design engineers and project managers.

160L. Introduction to Environmental Engineering and Science. QS, STS Examination of engineering and the societal context of anthropogenic contributions and impacts to the built environment. Focus on the human necessities of air, water, land, and energy and the technological interplays of environmental engineering in sustainably meeting human needs. Materials and energy balances applied to environmental engineering problems. Water pollution control, applied ecology, air quality management, solid and hazardous waste control, and environmental ethics. Instructor: Schaad or staff. One course.

190. Special Topics in Civil Engineering. Study arranged on a special topic in which the instructor has particular interest and competence. Consent of instructor and director of undergraduate studies required. Half course or one course each. Instructor: Staff. Variable credit.

Evaluation of design solutions via sensitivity and risk analysis. Application to design problems in civil and environmental engineering. Prerequisite: Engineering 201L. Instructor: Gavin. One course.

205. Practical Methods in Civil Engineering. Introduction to the practical methods used by Civil Engineers, including surveying, computer-aided-design, geographical information systems, and use of the mills, lathes, and other machine tools. Instructor: Schaad. Half course.

301L. Fluid Mechanics. Physical properties of fluids; fluid-flow concepts and basic equations; continuity, energy, and momentum principles; dimensional analysis and dynamic similitude; viscous effects; applications emphasizing real fluids. Selected laboratory work. Corequisites: Engineering 244L and Mathematics 353. Instructor: Boadu, Kabala, Laursen, Medina, Porporato.. One course.


315. Engineering Sustainable Design and Construction. QS, STS Design and testing of solutions to complex interdisciplinary design products in a service learning context. Technical design principles; sustainable and engineering best practices; prototype formation, testing and evaluation; and establishment of research and analysis methodologies in a community based research experience. Working in partnership with a community agency (local, national, or international) and participation in an experimental learning process by engineering a design solution for an identified community need. Evaluation focused on design deliverables, fabricated prototypes and a critical reflection of the experimental learning process. One credit. Prerequisites: Engineering 201L or Electrical and Computer Engineering 110L or consent of instructor. Instructor: Schaad. One course. C-L: Environment 365, Public Policy Studies 211

316. Transportation Engineering. The role and history of transportation. Introduction to the planning and design of multimodal transportation systems. Principles of traffic engineering, route location, and geometric design. Planning studies and economic evaluation. Prerequisite: Statistical Science 130 and consent of instructor for nonengineering students. Instructor: Staff. One course.

394. Engineering Undergraduate Fellows Projects. Intensive research project in Civil and Environmental Engineering by students selected as Engineering Undergraduate Fellows. Course credit is contingent upon satisfactory completion of 493 and 494. Consent of instructor and program director required. Instructor: Staff. One course.

411. Architectural Engineering II. ALP, STS Design and integration of building subsystems (enclosure, space, structural, environmental-control) in the design of a medium-sized building. Prerequisite: Civil Engineering 311 or consent of instructor. Instructor: Brasier. One course.


422L. Concrete and Composite Structures. Properties and design of concrete. Analysis and design of selected reinforced concrete structural elements according to strength design methodology. Mechanics
Civil and Environmental Engineering (CEE) 663

Laboratory work on properties of aggregates, concrete, and reinforced concrete. Prerequisite: Engineering 201L. Instructor: Nadeau. One course.


425. Analytical and Computational Solid Mechanics. Investigation and application of intermediate concepts of mechanics, expanding upon elementary ideas covered in Engineering 201L. Topics include: generalized stress and strain relations and differential equations of equilibrium in solids; the theory of elasticity, including some fundamental solutions; failure and strength theories from mechanics; and plate bending. Introduction of the finite element method as a means of solution of plate and planar elasticity problems, including basic theoretical concepts and modeling techniques involved in applications. Assigned work will feature analytical work and application of commercial finite element packages. Prerequisites: Engineering 201L, Mathematics 212 and 216, or consent of instructor. Instructor: Laursen or Dolbow. One course. C-L: Mechanical Engineering and Materials Science 425, Modeling Biological Systems

429. Integrated Structural Design. Student design teams complete a preliminary design of an actual structural engineering project and present the design to a panel of civil engineering faculty and practitioners. A written technical report is required. Topics to be addressed include: the design process; cost estimation; legal, ethical, and social aspects of professional engineering practice; short-term and long-term design serviceability considerations. Open only to civil engineering students during their final two semesters. Prerequisites: Civil and Environmental Engineering 421L, 422L, and 423L. Instructor: Nadeau. One course.

461L. Chemical Principles in Environmental Engineering. Fundamentals of chemistry as applied in environmental engineering processes. Chemistry topics include acid-base equilibrium, the carbonate system, mineral surfaces interactions, redox reactions, and organic chemistry. Applied environmental systems include water treatment, soil remediation, air pollution and green engineering. Laboratory included. Field trips will be arranged. Prerequisite: Chemistry 20, 21, or 101DL, or consent of instructor. Instructor: Hsu-Kim. One course. C-L: Energy and the Environment

462L. Biological Principles in Environmental Engineering. Fundamentals of microbiology related to biological environmental engineering processes. Topics include microbial metabolism, molecular biology tools, microbial kinetics and stoichiometry, and bioreactor models. Applications include unit processes in wastewater treatment and bioremediation. Laboratory included. Field trips to be arranged. Instructor: Deshusses. One course. C-L: Energy and the Environment


469. Integrated Environmental Design. Student design teams complete a preliminary design of an actual environmental engineering project and present the design to a panel of civil engineering faculty and practitioners. A written technical report is required. Topics to be addressed include: the design process; cost estimation; legal, ethical, and social aspects of professional engineering practice; short-term and long-term design serviceability considerations. Open only to civil engineering students during their final two semesters. Prerequisites: Civil and Environmental Engineering 461L, 463L, and 462L. Instructor: Schaad. One course. C-L: Global Health

490. Special Topics in Civil Engineering. Study arranged on a special topic in which the instructor has particular interest and competence. Consent of instructor and director of undergraduate studies required. Half course or one course each. Instructor: Staff. Variable credit.
491. **Projects in Civil Engineering.** These courses may be taken by junior and senior engineering students who have demonstrated aptitude for independent work. Consent of instructor and director of undergraduate studies required. Half course or one course each. Instructor: Staff. Variable credit.

492. **Projects in Civil Engineering.** These courses may be taken by junior and senior engineering students who have demonstrated aptitude for independent work. Consent of instructor and director of undergraduate studies required. Half course or one course each. Instructor: Staff. Variable credit.

493. **Engineering Undergraduate Fellows Projects.** Continuation course for Engineering Undergraduate Fellows, contingent upon satisfactory completion of 394. Consent required. Instructor: Staff. One course.

494. **Engineering Undergraduate Fellows Projects.** Final continuation course for Engineering Undergraduate Fellows, contingent upon satisfactory completion of 394 and 493. Consent required. Instructor: Staff. One course.

501. **Applied Mathematics for Engineers.** Advanced analytical methods of applied mathematics useful in solving a wide spectrum of engineering problems. Applications of linear algebra, calculus of variations, the Frobenius method, ordinary differential equations, partial differential equations, and boundary value problems. Prerequisites: Mathematics 353 or equivalent and undergraduate courses in solid and/or fluid mechanics. Instructor: Kabala. One course. C-L: Modeling Biological Systems


521. **Elasticity (GE, BB).** One course. C-L: see Biomedical Engineering 526

525. **Wave Propagation in Elastic and Poroelastic Media.** Basic theory, methods of solution, and applications involving wave propagation in elastic and poroelastic media. Analytical and numerical solution of corresponding equations of motion. Linear elasticity and viscoelasticity as applied to porous media. Effective medium, soil/rock materials as composite materials. Gassmann's equations and Biot's theory for poroelastic media. Stiffness and damping characteristics of poroelastic materials. Review of engineering applications that include NDT, geotechnical and geophysical case histories. Prerequisite: Mathematics 353 or consent of instructor. Instructor: Boadu. One course.

530. **Introduction to the Finite Element Method.** Investigation of the finite element method as a numerical technique for solving linear ordinary and partial differential equations, using rod and beam theory, heat conduction, elastostatics and dynamics, and advective/diffusive transport as sample systems. Emphasis placed on formulation and programming of finite element models, along with critical evaluation of results. Topics include: Galerkin and weighted residual approaches, virtual work principles, discretization, element design and evaluation, mixed formulations, and transient analysis. Prerequisites: a working knowledge of ordinary and partial differential equations, numerical methods, and programming in FORTRAN or MATLAB. Instructor: Dolbow and Laursen. One course. C-L: Mechanical Engineering and Materials Science 524

535. **Engineering Analysis and Computational Mechanics.** Mathematical formulation and numerical analysis of engineering systems with emphasis on applied mechanics. Equilibrium and eigenvalue problems of discrete and distributed systems; properties of these problems and discretization of distributed systems in continua by the trial functions with undetermined parameters. The use of weighted residual methods, finite
elements, and finite differences. Prerequisite: senior or graduate standing. Instructor: Dolbow and Laursen. One course. C-L: Modeling Biological Systems

541. Structural Dynamics. Formulation of dynamic models for discrete and continuous structures; normal mode analysis, deterministic and stochastic responses to shocks and environmental loading (earthquakes, winds, and waves); introduction to nonlinear dynamic systems, analysis and stability of structural components (beams and cables and large systems such as offshore towers, moored ships, and floating platforms). Instructor: Gavin. One course.


561L. Environmental Aquatic Chemistry. Principles of chemical equilibria and kinetics applied to quantitative chemical description of natural and engineered aquatic systems. Topics include acid/base equilibrium, the carbonate system, metal complexation, oxidation/reduction reactions, precipitation/dissolution of minerals, and surface absorption. Instructor: Hsu-Kim. One course. C-L: Environment 542L

562. Biological Processes in Environmental Engineering. Biological processes as they relate to environmental systems, including wastewater treatment and bioremediation. Concepts of microbiology, chemical engineering, stoichiometry, and kinetics of complex microbial metabolism, and process analyses. Specific processes discussed include carbon oxidation, nitrification/denitrification, phosphorus removal, methane production, and fermentation. Consent of instructor required. Instructor: Staff. One course.

563. Chemical Fate of Organic Compounds. One course. C-L: see Environment 540

564. Physical Chemical Processes in Environmental Engineering. Theory and design of fundamental and alternative physical and chemical treatment processes for pollution remediation. Reactor kinetics and hydraulics, gas transfer, adsorption, sedimentation, precipitation/coagulation/flocculation, chemical oxidation, disinfection. Prerequisites: introductory environmental engineering, chemistry, graduate standing, or permission of instructor. Instructor: Staff. One course.

565. Environmental Analytical Chemistry. This course covers the fundamentals and applications of analytical chemistry as applied to detection, identification, and quantification of anthropogenic contaminants in environmental samples including air, water, soil, sediment, and biota. The topics include both sample preparation methods (i.e. wet chemistry) and instrumental analysis (e.g. mass spectrometry, chromatography, and optical spectroscopy). Particular emphasis is placed on current advancements in measurement science as applied to environmental chemistry. The material includes both theoretical and practical aspects of environmental analysis. Prerequisite: CHEM 131 or CHEM 151L or consent of instructor. Instructor: Ferguson. C-L: Environment 566

566. Environmental Microbiology. Fundamentals of microbiology and biochemistry as they apply to environmental engineering. General topics include cell chemistry, microbial metabolism, bioenergetics, microbial ecology and pollutant biodegradation. Prerequisites: Civil and Environmental Engineering 462L or graduate standing or consent of the instructor. Instructor: Gunsch. One course.

569. Introduction to Atmospheric Aerosol. Atmospheric aerosol and its relationship to problems in air control, atmospheric science, environmental engineering, and industrial hygiene. Open to advanced undergraduate and graduate students. Prerequisites: knowledge of calculus and college-level physics. Consent of instructor required. Instructor: Khlystov. One course.

575. **Air Pollution Control Engineering.** The problems of air pollution with reference to public health and environmental effects. Measurement and meteorology. Air pollution control engineering: mechanical, chemical, and biological processes and technologies. Instructor: Peirce. One course.

576L. **Aerosol Measurement Techniques for Air Quality Monitoring and Research.** Principles of measurements and analysis of ambient particulate matter (aerosol). Traditional and emerging measurements techniques currently used in air quality monitoring and homeland defense. Open to advanced undergraduate and graduate students interested in the science and engineering related to atmospheric aerosol. Consent of the instructor required. Instructor: Khlystov. One course.

581. **Pollutant Transport Systems.** Distribution of pollutants in natural waters and the atmosphere; diffusive and advective transport phenomena within the natural environment and through artificial conduits and storage/treatment systems. Analytical and numerical prediction methods. Prerequisite: Civil and Environmental Engineering 301L and Mathematics 353, or equivalents. Instructor: Medina. One course.

585. **Vadose Zone Hydrology.** Transport of fluids, heat, and contaminants through unsaturated porous media. Understanding the physical laws and mathematical modeling of relevant processes. Field and laboratory measurements of moisture content and matric potential. Prerequisites: Civil and Environmental Engineering 301L and Mathematics 353, or consent of instructor. Instructor: Kabala. One course.


623. **Mechanics of Composite Materials.** Theory and application of effective medium, or homogenization, theories to predict macroscopic properties of composite materials based on microstructural characterizations. Effective elasticity, thermal expansion, moisture swelling, and transport properties, among others, are presented along with associated bounds such as Voigt/Reuss and Hashin-Shtrikman. Specific theories include Eshelby, Mori-Tanaka, Kuster-Toksoz, self-consistent, generalized self-consistent, differential method, and composite sphere and cylinder assemblages. Tensor-to-matrix mappings, orientational averaging, and texture analysis. Composite laminated plates, environmentally induced stresses, and failure theories. Prerequisite: Civil and Environmental Engineering 520 or consent of instructor. Instructor: Nadeau. One course.

625. **Intermediate Dynamics: Dynamics of Very High Dimensional Systems.** One course. C-L: see Mechanical Engineering and Materials Science 541

626. **Energy Flow and Wave Propagation in Elastic Solids.** One course. C-L: see Mechanical Engineering and Materials Science 543

627. **Linear System Theory.** Construction of continuous and discrete-time state space models for engineering systems, and linearization of nonlinear models. Applications of linear operator theory to system analysis. Dynamics of continuous and discrete-time linear state space systems, including time-varying systems. Lyapunov stability theory. Realization theory, including notion of controllability and observability, canonical forms, minimal realizations, and balanced realizations. Design of linear feedback controllers and dynamic observers, featuring both pole-placement and linear quadratic techniques. Introduction to stochastic control and filtering. Prerequisites: Electrical and Computer Engineering 382 or Mechanical Engineering 344L, or consent of instructor. Instructor: Staff. One course.

628. **Stochastic Systems.** Analysis of continuous and discrete-time stochastic processes, with emphasis on application to mechanics. Time- and frequency-domain analysis of stationary linear stochastic systems.

630. Nonlinear Finite Element Analysis. Formulation and solution of nonlinear initial/boundary value problems using the finite element method. Systems include nonlinear heat conduction/diffusion, geometrically nonlinear solid and structural mechanics applications, and materially nonlinear systems (for example, elastoplasticity). Emphasis on development of variational principles for nonlinear problems, finite element discretization, and equation-solving strategies for discrete nonlinear equation systems. Topics include: Newton-Raphson techniques, quasi-Newton iteration schemes, solution of nonlinear transient problems, and treatment of constraints in a nonlinear framework. An independent project, proposed by the student, is required. Prerequisite: Civil and Environmental Engineering 530/Mechanical Engineering 524, or consent of instructor. Instructor: Dolbow, Laursen. One course. C-L: Mechanical Engineering and Materials Science 525

635. Computational Methods for Evolving Discontinuities. Presents an overview of advanced numerical methods for the treatment of engineering problems such as brittle and ductile failure and solid-liquid phase transformations in pure substances. Analytical methods for arbitrary discontinuities and interfaces are reviewed, with particular attention to the derivation of jump conditions. Partition of unity and level set methods. Prerequisites: Civil and Environmental Engineering 530, or 630, or instructor consent. Instructor: Dolbow. One course. C-L: Modeling Biological Systems


642. Environmental Geomechanics. The course addresses engineered and natural situations, where mechanical and hydraulic properties of soils and rocks depend on environmental (thermal chemical, biological) processes. Experimental findings are reviewed, and modeling of coupled thermo-mechanical, chemo-mechanical technologies are reviewed. Instructor: Hueckel. One course.

643. Environmental and Engineering Geophysics. Use of geophysical methods for solving engineering and environmental problems. Theoretical frameworks, techniques, and relevant case histories as applied to engineering and environmental problems (including groundwater evaluation and protection, siting of landfills, chemical waste disposals, roads assessments, foundations investigations for structures, liquefaction and earthquake risk assessment). Introduction to theory of elasticity and wave propagation in elastic and poroelastic media, electrical and electromagnetic methods, and ground penetrating radar technology. Prerequisite: Mathematics 353 or Physics 152L, or consent of instructor. Instructor: Boadu. One course.


645. Experimental Systems. Formulation of experiments; Pi theorem and principles of similitude; data acquisition systems; static and dynamic measurement of displacement, force, and strain; interfacing experiments with digital computers for data storage, analysis, and plotting. Students select, design, perform,
and interpret laboratory-scale experiments involving structures and basic material behavior. Prerequisite: senior or graduate standing in engineering or the physical sciences. Instructor: Gavin. One course.


647. Buckling of Engineering Structures. An introduction to the underlying concepts of elastic stability and buckling, development of differential equation and energy approaches, buckling of common engineering components including link models, struts, frames, plates, and shells. Consideration will also be given to inelastic behavior, postbuckling, and design implications. Prerequisite: Civil and Environmental Engineering 421L, or consent of instructor. Instructor: Virgin. One course. C-L: Mechanical Engineering and Materials Science 527


649. Structural Engineering Project Management. Apply project management tools and skills to a structural engineering design project. Implement changes in schedule, budget, and changing client and/or regulatory climate. Work with a design team of undergraduate students. Prerequisites: not open to students who have had Civil and Environmental Engineering 429, 469, or 679. Consent of instructor required. Instructor: Nadeau. One course.

661L. Environmental Molecular Biotechnology (GE, MC). Principles of genetics and recombinant DNA for environmental systems. Applications to include genetic engineering for bioremediation, DGGE, FISH, micro-arrays and biosensors. Laboratory exercises to include DNA isolation, amplification, manipulation and analysis. Prerequisites: Civil and Environmental Engineering 462L, Biology 20, Biology 201L, or graduate standing, or consent of instructor. Instructor: Gunsch. One course. C-L: Biomedical Engineering 565L

662. Physico-Bio-Chemical Transformations. Surveys of a selection of topics related to the interaction between fluid flow (through channels or the porous media) and physical, chemical, and biochemical transformations encountered in environmental engineering. Numerous diverse phenomena, including solute transport in the vicinity of chemically reacting surfaces, reverse osmosis, sedimentation, centrifugation, ultrafiltration, rheology, microorganism population dynamics, and others will be presented in a unifying mathematical framework. Prerequisites: Civil and Environmental Engineering 301L and Mathematics 353, or consent of instructor. Instructor: Kabala. One course.

665. Introduction to Atmospheric Chemistry. NS One course. C-L: see Environment 739

666. Aquatic Geochemistry. Geochemistry of the water-solid interface of soils, minerals, and particles in earth systems. Topics will cover the chemical composition of soils, geochemical specalation, mineral weathering and stability, sorption and ion exchange, soil redox processes, and chemical kinetics at environmental surfaces. Prerequisites: CE/ENVIRON 561L or CEE 461L or EOS 525 or ENVIRON 360 or permission of instructor. Instructor: Hsu-Kim. One course. C-L: Environment 666

671. Physicochemical Unit Operations in Water Treatment. Fundamental bases for design of water and waste treatment systems, including transport, mixing, sedimentation and filtration, gas transfer, coagulation,
and absorption processes. Emphasis on physical and chemical treatment combinations for drinking water supply. Prerequisite: Civil and Environmental Engineering 462L. Instructor: Kabala. One course.

672. Solid Waste Engineering. Engineering design of material and energy recovery systems including traditional and advanced technologies. Sanitary landfills and incineration of solid wastes. Application of systems analysis to collection of municipal refuse. Major design project in solid waste management. Prerequisite: Civil and Environmental Engineering 462L, or consent of instructor. Instructor: Staff. One course. C-L: Environment 548

675. Introduction to the Physical Principles of Remote Sensing of the Environment. The course provides an overview of the radiative transfer principles used in remote-sensing across the electromagnetic spectrum using both passive and active sensors. Special focus is placed on the process that leads from theory to the development of retrieval algorithms for satellite-based sensors, including post-processing of raw observations and uncertainty analysis. Students carry on three hands-on projects (Visible and Thermal Infrared, Active Microwave, and Passive Microwave). Background in at least one of the following disciplines is desirable: radiation transfer, signal processing, and environmental physics (Hydrology, Geology, Geophysics, Plant Biophysics, Soil Physics). Instructor consent required. Instructor: Barros. One course.

676. Fundamentals and Applications of UV Processes in Environmental Systems. Ultraviolet light based processes as they relate to treatment of contaminants in water and air. Concepts in photochemistry and photobiology, fluence determination, UV disinfection, photodegradation processes for chemical containments, advanced oxidation processes, mathematical modeling and design of UV systems. Includes laboratory exercises. Prerequisites: Civil and Environmental Engineering 564, or consent of instructor. Instructor: Staff. One course.

679. Environmental Engineering Project Management. Apply project management tools and skills to an environmental engineering design project. Implement changes in schedule, budget, and changing client and/or regulatory climate. Work with a design team of undergraduate students. Consent of instructor required. Prerequisites: not open to students who have had Civil and Environmental Engineering 429, 469, or 649. Instructor: Schaad. One course.

681. Analytical Models of Subsurface Hydrology. Reviews the method of separation of variables, surveys integral transforms, and illustrates their application to solving initial boundary value problems. Three parts include: mathematical and hydrologic fundamentals, integral transforms and their philosophy, and detailed derivation via integral transforms of some of the most commonly used models in subsurface hydrology and environmental engineering. Discussion and use of parameter estimation techniques associated with the considered models. Prerequisite: Mathematics 353 and (Civil and Environmental Engineering 301L or 463L), or consent of instructor. Instructor: Kabala. One course.

682. Dynamic Engineering Hydrology. Dynamics of the occurrence, circulation, and distribution of water; climate, hydrometeorology, geophysical fluid motions. Precipitation, surface runoff and stream flow, infiltration, water losses. Hydrograph analysis, catchment characteristics, hydrologic instrumentation, and computer simulation models. Prerequisite: Civil and Environmental Engineering 301L, or consent of instructor. Instructor: Medina. One course.

684. Physical Hydrology and Hydrometeorology. The objective of this course is to introduce and familiarize graduate students with the fundamental physical processes in Hydrology and Hydrometeorology that control and modulate the pathways and transformations of water in the environment. The content of the course will be strongly oriented toward providing students with a specific basis for quantitative analysis of the terrestrial water cycle including land-atmosphere interactions and clouds and precipitation (rain and snow) processes. The course should be of interest to undergraduate and graduate students interested in Environmental Science and Engineering, and Atmospheric and Earth Sciences. Instructor: Barros. One course.

685. Water Supply Engineering Design. The study of water resources and municipal water requirements including reservoirs, transmission, treatment and distribution systems; methods of collection, treatment, and disposal of municipal and industrial wastewaters. The course includes the preparation of a comprehensive engineering report encompassing all aspects of municipal water and wastewater systems. Field trips to be arranged. Prerequisite: Civil and Environmental Engineering 462L, or consent of instructor. Instructor: Staff. One course.

686. Ecodydrology. This course provides the theoretical basis for understanding the interaction between hydrologic cycle, vegetation and soil biogeochemistry which is key for a proper management of water resources and terrestrial ecosystems especially in view of the possible intensification and alteration of the hydrologic regime due to climate change. Topics include: Probabilistic soil moisture dynamics; plant water stress; coupled dynamics of soil moisture, transpiration and photosynthesis; and infiltration, root uptake, and hydrologic control on soil biogeochemistry. Instructor: Porporato. One course.

687. Hydrologic Modeling for Water Quantity and Quality Assessment. One course. C-L: see Environment 769

690. Advanced Topics in Civil and Environmental Engineering. Opportunity for study of advanced subjects relating to programs within the civil and environmental engineering department tailored to fit the requirements of individuals or small groups. Instructor: Staff. Variable credit.

THE MAJOR

The major requirements are included in the minimum of thirty-four courses listed under general requirements and departmental requirements. The following specific courses must be included. All majors must take Engineering 25L, 53L, 75L, 115, 123L, and 150L: Civil and Environmental Engineering 24L, 100, 122L, 130L, and 139L. Majors choosing the structural engineering and mechanics sequence must take Civil and Environmental engineering 131L, 133L, 134L and 192. Majors choosing the environmental engineering and water resources sequence must take Civil and Environmental Engineering 120L, 123L, 124L and 193.

Electrical and Computer Engineering (ECE)

Professor Collins, Chair; Associate Professor Board, Associate Chair; Associate Professor of the Practice Huettel, Director of Undergraduate Studies; Professors Brady, Brown, Calderbank, Carin, Chakrabarty, Daubechies, Donald, Fair, Glass, Harer, Joines, Jokerst, Katsoulas, Krolik, Lebeck, Liu, Maggs, Massoud, Nolte, Smith, and Trivedi; Associate Professors Brooke, Cummer, Ferrari, Kim, Kedem, Nowacek, Sorin, and Teitsworth; Assistant Professors Cox, Dwyer, Lee, Peterchev, Reynolds, Roy Choudhury, Stiff-Roberts, Willett, Yang, and Yoshie; Professors Emeriti Casey, George, Marinos, Wang, and Wilson; Professor of the Practice Ybarra; Associate Professor of the Practice Gustafson; Assistant Research Professors Liao, Marks, Maunz, Morizio, Morton, Poutrina, Raginsky, Torrione, and Urzhumov; Adjunct Professors Derby, Lampert, Natishan, Stoner and Wilson; Adjunct Associate Professors Janet and Ozev; Adjunct Assistant Professors Remus and Stohl; Visiting Professors Kaiser and McCumber

The educational mission of the Department of Electrical and Computer Engineering is to facilitate the development of graduates who are highly technically skilled, well rounded, productive, and ethical individuals versed in social, economic, political, and environmental issues. Our goals are to develop within each student a robust repertoire of professional skills, to provide each with avenues for exploring diverse
interests, and to launch each successfully into one of a variety of careers offering lifelong learning, service, and leadership within their own local, national, and global communities. To achieve our mission, the department puts forth the following educational objectives for the extremely capable students entering the ECE program.

Our graduates

1. will be prepared to enter careers in academia, industry, or government with problem solving and technical skills that will facilitate their advancement into leadership roles in the profession of electrical and computer engineering or related areas;
2. will utilize their analytical skills, knowledge of modern engineering tools, and interdisciplinary project-based learning to function effectively in positions that require creative solutions, involve coordination of multiple disciplines, and concern for positive societal outcomes; and
3. will be prepared to solve problems based upon fundamental knowledge of electrical and computer engineering, abilities to engage in life-long learning, and in-depth exposure to the humanities and social sciences.

The Electrical and Computer Engineering (ECE) program is fully accredited by the Engineering Commission of the Accreditation Board for Engineering and Technology (ABET) and leads to a Bachelor of Science in Engineering (BSE) degree. The ECE curriculum provides a solid foundation in mathematics, physical and life sciences, computer science, and humanities and social sciences that complements a set of 12 theme-based ECE courses.

The Department of Electrical and Computer Engineering has designed its curriculum based on the theme of Integrated Sensing and Information Processing (ISIP). The ISIP theme capitalizes on the collective research expertise of the ECE faculty and provides a coherent, overarching framework that links principles of ECE to each other and to real-world engineering problems. The cornerstone of the new ECE curriculum is the first course Fundamentals of Electrical and Computer Engineering, which has been designed to provide students with a holistic view of ECE by introducing concepts spanning how to interface sensors and systems with the physical world, how to transfer/transmit energy/information, and how to extract, manipulate, analyze and interpret information. The integrated design challenge in this first course introduces students to team problem solving and motivates in-depth study of ECE concepts in subsequent terms. Each of four follow-on core courses focuses on a specific subfield of ECE (Digital Systems, Microelectronics, Sensing and Waves, Signals and Systems), and integrates lateral and vertical connections to other courses through the use of thematic examples. Following the five core courses are seven ECE technical electives that include a culminating engineering design course where teams of students address a significant real-world problem or opportunity.

The ECE curriculum emphasizes creative problem solving through open-ended design challenges in many courses. Working in teams, students collaborate to utilize and develop their individual and collective technical, management, and leadership skills to design, simulate, build, and test components and systems to meet a set of specifications, often defined by industry standards.

Students have the option to pursue two or three areas of concentration, depending on personal interests. The upper-level technical electives, which extend the breadth and depth of the ECE core curriculum, provide a firm foundation for future technical accomplishment and for effective problem solving in the diverse fields that our graduates pursue.

The flexibility of the ECE curriculum enables students and their faculty advisors to tailor a unique educational experience for every student. This may include a semester abroad; a second major, minor, or certificate program; and/or a research experience with a faculty member. The most popular second majors are computer science and biomedical engineering. Other popular second majors include mathematics, economics, physics, and public policy. Interests such as premedicine, prelaw, art, music, psychology, and social sciences can be accommodated through individually designed programs. Students are encouraged to take more than

*Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET) 111 Market Place, Suite 1050, Baltimore, MD 21202, telephone (410) 347-7700
the minimum required courses in the sciences and the liberal arts, as is fitting at an engineering school in a university with a strong liberal arts tradition.

110L. **Fundamentals of Electrical and Computer Engineering.** Students learn core ECE concepts, providing a foundation on which subsequent courses build. These concepts include techniques for analyzing linear circuits, semiconductor and photonic devices, frequency representation, filtering, and combinational and sequential logic. Central to the course is an extensive design challenge that requires students to integrate knowledge across topics while honing practical design and project management skills. The course culminates in an exciting competition in which teams of robots race to overcome challenging obstacles using sensor data acquisition and processing. Prerequisite: Engineering 110L. Corequisite: Mathematics 122. Instructor: Huettel or Ybarra. One course.

230L. **Introduction to Microelectronic Devices and Circuits.** Hands-on, laboratory driven introduction to microelectronic devices, sensors, and integrated circuits. Student teams of 3-4 students/team compete in a design, assembly, testing, characterization and simulation of an electronic system. Projects include microelectronic devices, sensors, and basic analog and digital circuits. Classroom portion designed to answer questions generated in laboratory about understanding operation of devices and sensors, and the performance of electronic circuits. Student evaluation based on project specification, prototyping, integration, testing, simulation and documentation. Prerequisites: Engineering 110L, and either Electrical and Computer Engineering 110L or Biomedical Engineering 253L. Instructor: Brooke or Massoud. One course.

250L. **Introduction to Digital Systems.** Techniques for the analysis and design of combinational and sequential networks via manual and automated methods. Introduction to hardware description languages. Introduction to simple computer systems, including their lower-level architecture, assembly language programming, and computer arithmetic. Lab stresses simulation of target circuits and physical realization with both discrete and high-complexity programmable components. Final design project. Prerequisite: Engineering 110L, and either Electrical and Computer Engineering 110L or Biomedical Engineering 253L. Instructor: Board, Dwyer, or Sorin. One course.

270L. **Introduction to Electromagnetic Fields.** Fundamentals and application of transmission lines and electromagnetic fields and waves, antennas, field sensing, and signal transmission. Transmission line transients and digital signal transmission; transmission lines in sinusoidal steady state, impedance transformation, and impedance matching; electrostatics and magnetostatics, including capacitance and inductance; electromagnetic waves in uniform media and their interaction with interfaces; antennas and antenna arrays. Alternating laboratories and recitations. Laboratory experiments include transmission line transients, impedance matching, static and dynamic electromagnetic fields, and antennas. Prerequisites: Engineering 110L, Mathematics 216 and either Electrical and Computer Engineering 110L or Biomedical Engineering 253L. Instructor: Carin, Cummer, Joines, Liu, or Smith. One course.

280L. **Introduction to Signals and Systems.** Continuous and discrete signal representation and classification; system classification and response; transfer functions. Fourier series; Fourier, Laplace, and z transforms. Applications to Integrated Sensing and Information Processing; networks, modulation, sampling, filtering, and digital signal processing. Laboratory projects using digital signal processing hardware and microcontrollers. Computational solutions of problems using Matlab and Maple. Prerequisite: Engineering 110L, and either Electrical and Computer Engineering 110L or Biomedical Engineering 253L. Instructor: Collins, Gustafson, or Huettel. One course.

311. **Thermal Physics.** Thermal properties of matter treated using the basic concepts of entropy, temperature, chemical potential, partition function, and free energy. Topics include the laws of thermodynamics, ideal gases, thermal radiation and electrical noise, heat engines, Fermi-Dirac and Bose-Einstein distributions, semiconductor statistics, kinetic theory, and phase transformations. Also taught as Physics 363. Prerequisites: Mathematics 212 or equivalent and Physics 51L, 152L or equivalent. Instructor: Staff. One course.


340. Optics and Photonics. NS One course. C-L: see Physics 320; also C-L: Visual and Media Studies 325

350. Introduction to Computer Architecture. Architecture and organization of digital computer systems. Processor operation, computer arithmetic, instruction set design. Assembly language programming. Selected hardware and software exercises culminating in the design, simulation, and implementation in FPGA technology of the major components of a complete computer system. Not open to students who have taken Computer Science 250. Prerequisite: Electrical and Computer Engineering 250L and Computer Science 100E. Instructor: Board or Sorin. One course. C-L: Information Science and Information Studies, Modeling Biological Systems

353. Introduction to Operating Systems. Basic concepts and principles of multiprogrammed operating systems. Processes, interprocess communication, CPU scheduling, mutual exclusion, deadlocks, memory management, I/O devices, file systems, protection mechanisms. Also taught as Computer Science 210. Prerequisites: Computer Science 201 and 250. Instructor: Chase or Ellis. One course.


363L. Electric Vehicle Project. Analysis, design, and construction of electrical and mechanical components found in electric vehicles. Traction motors, controllers, batteries and chargers, and metering. Hybrid and fuel cell vehicle systems. Project includes building electrical devices and wiring of traction, control, lighting, and other components along with construction of adapters and devices necessary for the conversion of a vehicle to electric drive. Prerequisite: Physics 152L, Electrical and Computer Engineering 110L or Engineering 224L. Instructor: Klenk. One course. C-L: Mechanical Engineering and Materials Science 463

381. Fundamentals of Digital Signal Processing. An introduction to theory and applications of digital signal processing. Concepts, analytical tools and design techniques to process signals in digital form. Signal sampling and reconstruction, discrete-time transforms including the z-transform, discrete-time Fourier transform, and discrete Fourier transform. Discrete systems including the analysis and design of FIR and IIR filters. Introduction to applications of digital signal processing such as image processing, and optimal detection of signals in noise. Discrete system simulations using MATLAB. Prerequisite: Electrical and Computer Engineering 280L and Statistical Science 130 or Mathematics 230 or Electrical and Computer Engineering 555 or permission of instructor. Instructor: Huettel or Nolte. One course. C-L: Modeling Biological Systems

382. Linear Control Systems. Analysis and design of feedback control systems. Block diagram and signal flow graph system models. Servomechanism characteristics, steady-state errors, sensitivity to parameter
variations and disturbance signals. Time domain performance specifications. Stability. Root locus, Nyquist, and Bode analysis; design of compensation circuits; closed loop frequency response determination. Introduction to time domain analysis and design. Prerequisite: Electrical and Computer Engineering 280L or consent of instructor. Instructor: Gustafson. One course.


384LA. Sound in the Sea: Introduction to Marine Bioacoustics. NS, R, STS One course. C-L: see Environment 280LA; also C-L: Earth and Ocean Sciences 280LA, Marine Sciences, Marine Science and Conservation

391. Undergraduate Research in Electrical and Computer Engineering. For juniors only. Half course or one course each. Instructor: Staff. Variable credit.

392. Undergraduate Research in Electrical and Computer Engineering. For juniors only. Half course or one course each. Instructor: Staff. Variable credit.

449. Opto-Electronic Design Projects. Teams of students design an opto-electronic board-level system to a published specification. The system is built, tested, and compared to the design specifications. Optical, analog, digital, and radio frequency (RF) components are used to complete the projects. Group tasks include resource planning and management using GANTT charts, project budgeting, estimating product Bill of Materials costs, background study of the standard specification and component characteristics, testing of an evaluation board, interaction with component vendors, design of the team's board, submission of that design to a quick-turnaround board fabrication foundry, assembly of the purchased components onto the fabricated board, and board-level system test. The opto-electric board design incorporates considerations such as cost, economic viability, environmental impact, ethical issues, manufacturability, and social and political impact. Prerequisite: Senior standing in Electrical and Computer Engineering or Electrical and Computer Engineering 340, 162L, or 331L. Instructor: Brooke, Jokerst. One course.

459. Introduction to Embedded Systems. An introduction to hardware/software codesign of embedded computer systems. Structured programming techniques for high and low level programs. Hardware interfacing strategies for sensors, actuators, and displays. Detailed study of Motorola 68HC11 and 68HC12 microcomputers as applied to embedded system development. Hardware and simulation laboratory exercises with 68HC11 and 68HC12 development boards. Major design project. Prerequisite: Electrical and Computer Engineering 350 or equivalent and consent of instructor. Instructor: Board. One course. C-L: Modeling Biological Systems


486. Wireless Communication Systems. Fundamentals of wireless system analysis and design; channel assignment, handoffs, trunking efficiency, interference, frequency reuse and capacity planning. Path loss models including large and small scale, multipath interference, diffraction, and scattering. Signal manipulation and conditioning including modulation/demodulation, equalization and speech coding. Air interference
standards and multiple access techniques including CDMA, TDMA and OFDM. Prerequisites: Electrical and Computer Engineering 280L and one of Statistical Science 130, Electrical and Computer Engineering 555 or Mathematics 230. Instructor: Ybarra. One course.

488. Digital Image and Multidimensional Processing. Introduction to the theory and methods of digital image and video sampling, denoising, coding, reconstruction, and analysis. Both linear methods (such as 2- and 3-D Fourier analysis) and non-linear methods (such as wavelet analysis). Key topics include segmentation, interpolation, registration, noise removal, edge enhancement, halftoning and inverse halftoning, deblurring, tomographic reconstruction, superresolution, compression, and feature extraction. While this course covers techniques used in a wide variety of contexts, it places a strong emphasis on medical imaging applications. Prerequisites: Electrical and Computer Engineering 280L and Statistical Science 130 or Mathematics 230 or Electrical and Computer Engineering 555 or permission of instructor. Instructor: Willett. One course. C-L: Information Science and Information Studies, Modeling Biological Systems

493. Undergraduate Research in Electrical and Computer Engineering. For seniors only. Half course or one course each. Instructor: Staff. Variable credit.

494. Undergraduate Research in Electrical and Computer Engineering. For seniors only. Half course or one course each. Instructor: Staff. Variable credit.

495. Special Topics in Electrical and Computer Engineering. Study of selected topics in electrical engineering tailored to fit the requirements of a small group. Consent of instructor and director of undergraduate studies required. Half course or one course each. Instructor: Staff. Variable credit.

496. Special Topics in Electrical and Computer Engineering. Study of selected topics in electrical engineering tailored to fit the requirements of a small group. Consent of instructor and director of undergraduate studies required. Half course or one course each. Instructor: Staff. Variable credit.

521. Quantum Mechanics. Discussion of wave mechanics including elementary applications, free particle dynamics, Schrödinger equation including treatment of systems with exact solutions, and approximate methods for time-dependent quantum mechanical systems with emphasis on quantum phenomena underlying solid-state electronics and physics. Prerequisite: Mathematics 216 or equivalent. Instructor: Brady, Brown, or Stiff-Roberts. One course.


523. Quantum Information Science. NS Fundamental concepts and progress in quantum information science. Quantum circuits, quantum universality theorem, quantum algorithms, quantum operations and quantum error correction codes, fault-tolerant architectures, security in quantum communications, quantum key distribution, physical systems for realizing quantum logic, quantum repeaters and long-distance quantum communication. Prerequisites: Electrical and Computer Engineering 521 or Physics 464 or equivalent. Instructor: Kim. One course. C-L: Physics 627

524. Introduction to Solid-State Physics. Discussion of solid-state phenomena including crystalline structures, X-ray and particle diffraction in crystals, lattice dynamics, free electron theory of metals, energy bands, and superconductivity, with emphasis on understanding electrical and optical properties of solids. Prerequisite: quantum physics at the level of Physics 264L or Electrical and Computer Engineering 521. Instructor: Teitsworth. One course.

525. Semiconductor Physics. A quantitative treatment of the physical processes that underlie semiconductor device operation. Topics include band theory and conduction phenomena; equilibrium and nonequilibrium
charge carrier distributions; charge generation, injection, and recombination; drift and diffusion processes. Prerequisite: Electrical and Computer Engineering 330 or consent of instructor. Instructor: Staff. One course.


534. CAD For Mixed-Signal Circuits. The course focuses on various aspects of design automation for mixed-signal circuits. Circuit simulation methods including graph-based circuit representation, automated derivation and solving of nodal equations, and DC analysis, test automation approaches including test equipments, test generation, fault simulation, and built-in-self-test, and automated circuit synthesis including architecture generation, circuit synthesis, tack generation, placement and routing are the major topics. The course will have one major project, 4-6 homework assignments, one midterm, and one final. Prerequisites: Electrical and Computer Engineering 331L. Permission of instructor required. Instructor: Staff. One course.

536. Synthesis and Verification of VLSI Systems. Algorithms and CAD tools for VLSI synthesis and design verification, logic synthesis, multi-level logic optimization, high-level synthesis, logic simulation, timing analysis, formal verification. Prerequisite: Electrical and Computer Engineering 250L or equivalent. Instructor: Chakrabarty. One course.
537. Radiofrequency (RF) Transceiver Design. Design of wireless radiofrequency transceivers. Analog and digital modulation, digital modulation schemes, system level design for receiver and transmitter path, wireless communication standards and determining system parameters for standard compliance, fundamentals of synthesizer design, and circuit level design of low-noise amplifiers and mixers. Prerequisites: Electrical and Computer Engineering 280L and Electrical and Computer Engineering 331L or equivalent. Instructor: Staff. One course.

538. VLSI System Testing. Fault modeling, fault simulation, test generation algorithms, testability measures, design for testability, scan design, built-in self-test, system-on-a-chip testing, memory testing. Prerequisite: Electrical and Computer Engineering 250L or equivalent. Instructor: Chakrabarty. One course.

539. CMOS VLSI Design Methodologies. Emphasis on full-custom chip design. Extensive use of CAD tools for IC design, simulation, and layout verification. Techniques for designing high-speed, low-power, and easily-testable circuits. Semester design project: Groups of four students design and simulate a simple custom IC using Mentor Graphics CAD tools. Teams and project scope are multidisciplinary; each team includes students with interests in several of the following areas: analog design, digital design, computer science, computer engineering, signal processing, biomedical engineering, electronics, photonics. A formal project proposal, a written project report, and a formal project presentation are also required. The chip design incorporates considerations such as cost, economic viability, environmental impact, ethical issues, manufacturability, and social and political impact. Prerequisites: Electrical and Computer Engineering 250L and Electrical and Computer Engineering 331L. Some background in computer organization is helpful but not required. Instructor: Chakrabarty. One course.


552. Advanced Computer Architecture I. QS, R One course. C-L: see Computer Science 550; also C-L: Modeling Biological Systems

554. Fault-Tolerant and Testable Computer Systems. Technological reasons for faults, fault models, information redundancy, spatial redundancy, backward and forward error recovery, fault-tolerant hardware and software, modeling and analysis, testing, and design for test. Prerequisite: Electrical and Computer Engineering 350 or equivalent. Instructor: Sorin. One course. C-L: Computer Science 554


558. Computer Networks and Distributed Systems. QS, R One course. C-L: see Computer Science 514

559. Advanced Digital System Design. This course covers the fundamentals of advanced digital system design, and the use of a hardware description language, VHDL, for their synthesis and simulation. Examples of systems considered include the arithmetic/logic unit, memory, and microcontrollers. The course includes an appropriate capstone design project that incorporates engineering standards and realistic constraints in the outcome of the design process. Additionally, the designer must consider most of the following: Cost, environmental impact, manufacturability, health and safety, ethics, social and political impact. Each design project is executed by a team of 4 or 5 students who are responsible for generating a final written project report and making an appropriate presentation of their results to the class. Prerequisite: Electrical and Computer Engineering 250L and Senior/graduate student standing. Instructor: Derby. One course.

571. Electromagnetic Theory. The classical theory of Maxwell's equations; electrostatics, magnetostatics, boundary value problems including numerical solutions, currents and their interactions, and force and energy relations. Three class sessions. Prerequisite: Electrical and Computer Engineering 270L. Instructor: Carin, Joines, Liu, or Smith. One course.


573. Optical Communication Systems. Mathematical methods, physical ideas, and device concepts of optoelectronics. Maxwell's equations, and definitions of energy density and power flow. Transmission and reflection of plane waves at interfaces. Optical resonators, waveguides, fibers, and detectors are also presented. Prerequisite: Electrical and Computer Engineering 270L or equivalent. Instructor: Joines. One course.

574. Waves in Matter. Analysis of wave phenomena that occur in materials based on fundamental formulations for electromagnetic and elastic waves. Examples from these and other classes of waves are used to demonstrate general wave phenomena such as dispersion, anisotropy, and causality; phase, group, and energy propagation velocities and directions; propagation and excitation of surface waves; propagation in inhomogeneous media; and nonlinearity and instability. Applications that exploit these wave phenomena in general sensing applications are explored. Prerequisites: Electrical and Computer Engineering 270L. Instructor: Cummer. One course.


577. Computational Electromagnetics. Systematic discussion of useful numerical methods in computational electromagnetics including integral equation techniques and differential equation techniques, both in the frequency and time domains. Hands-on experience with numerical techniques, including the method of moments, finite element and finite-difference time-domain methods, and modern high order and spectral domain methods. Prerequisite: Electrical and Computer Engineering 571 or consent of instructor. Instructor: Carin or Liu. One course.
578S. Inverse Problems in Electromagnetics and Acoustics. Systematic discussion of practical inverse problems in electromagnetics and acoustics. Hands-on experience with numerical solution of inverse problems, both linear and nonlinear in nature. Comprehensive study includes: discrete linear and nonlinear inverse methods, origin and solution of nonuniqueness, tomography, wave-equation based linear inverse methods, and nonlinear inverse scattering methods. Assignments are project oriented using MATLAB. Prerequisites: Graduate level acoustics or electromagnetics (Electrical and Computer Engineering 571), or consent of instructor. Instructor: Liu. One course.


582. Digital Signal Processing. Introduction to fundamental algorithms used to process digital signals. Basic discrete time system theory, the discrete Fourier transform, the FFT algorithm, linear filtering using the FFT, linear production and the Wiener filter, adaptive filters and applications, the LMS algorithm and its convergence, recursive least-squares filters, nonparametric and parametric power spectrum estimation minimum variance and eigenanalysis algorithms for spectrum estimation. Prerequisite: Electrical and Computer Engineering 581 or equivalent with consent of the instructor. Instructor: Collins, Krolik, Nolte, Tantum, or Willett. One course. One course.

584. Acoustics and Hearing (GE, IM). One course. C-L: see Biomedical Engineering 545

585. Signal Detection and Extraction Theory. Introduction to signal detection and information extraction theory from a statistical decision theory viewpoint. Subject areas covered within the context of a digital environment are decision theory, detection and estimation of known and random signals in noise, estimation of parameters and adaptive recursive digital filtering, and decision processes with finite memory. Applications to problems in communication theory. Prerequisite: Electrical and Computer Engineering 581 or consent of instructor. Instructor: Nolte. One course.

587. Information Theory. This class provides an introduction to information theory. The student is introduced to entropy, mutual information, relative entropy and differential entropy, and these topics are connected to practical problems in communications, compression, and inference. The class is appropriate for beginning graduate students who have a good background in undergraduate electrical engineering, computer science or math. Instructor: Carin. One course.

590. Advanced Topics in Electrical and Computer Engineering. Opportunity for study of advanced subjects related to programs within the electrical and computer engineering department tailored to fit the requirements of a small group. Instructor: Staff. One course.

652. Advanced Computer Architecture II. QS One course. C-L: see Computer Science 650; also C-L: Modeling Biological Systems


676. Lens Design. Paraxial and computational ray tracing. Merit functions. Wave and chromatic aberrations. Lenses in photography, microscopy and telescope. Spectrograph design. Emerging trends in lens system design, including multiple aperture and catadioptric designs and nonimaging design for solar energy collection. Design project management. Each student must propose and complete a design study, including a written
680 Courses and Academic Programs

**680. Courses and Academic Programs**

Instructor: Brady. 3 units. One course.

**681. Pattern Classification and Recognition Technology.** Theory and practice of recognition technology: pattern classification, pattern recognition, automatic computer decision-making algorithms. Applications covered include medical diseases, severe weather, industrial parts, biometrics, bioinformation, animal behavior patterns, image processing, and human visual systems. Perception as an integral component of intelligent systems. This course prepares students for advanced study of data fusion, data mining, knowledge base construction, problem-solving methodologies of "intelligent agents" and the design of intelligent control systems. Prerequisites: Mathematics 216, Statistical Science 130 or Mathematics 230, Computer Science 101, or consent of instructor. Instructor: Collins or P. Wang. One course.


**688. Sensor Array Signal Processing.** An in-depth treatment of the fundamental concepts, theory, and practice of sensor array processing of signals carried by propagating waves. Topics include: multidimensional frequency-domain representations of space-time signals and linear systems; apertures and sampling of space-time signals; beamforming and filtering in the space-time and frequency domains, discrete random fields; adaptive beamforming methods; high resolution spatial spectral estimation; optimal detection, estimation, and performance bounds for sensor arrays; wave propagation models used in sensor array processing; blind beamforming and source separation methods; multiple-input-multiple-output (MIMO) array processing; application examples from radar, sonar, and communications systems. Instructor: Staff. One course.

**722. Quantum Electronics.** Quantum theory of light-matter interaction. Laser physics (electron oscillator model, rate equations, gain, lasing condition, oscillation dynamics, modulation) and nonlinear optics (electro-optic effect, second harmonic generation, phase matching, optical parametric oscillation and amplification, third-order nonlinearity, optical bistability.) Prerequisite Electrical and Computer Engineering 521, Physics 464, or equivalent. Instructors: Stiff-Roberts or Yoshie. One course. One course.

**THE MAJOR**

The requirements for the Electrical and Computer Engineering (ECE) major are included in the minimum total of 34 courses listed under the general requirements and departmental requirements. The program of study must include an approved engineering design course taken in the junior or senior year of the program.

**Mechanical Engineering and Materials Science (ME)**

Professor Dowell, Chair; Associate Professor Bliss, Director of Undergraduate Studies; Professors Bejan, Cocks, Dowell, Garg, Hall, Marszalek, Needham, Shaughnessy, Tan, and Virgin; Associate Professors Bliss, Curtarolo, Ferrari, Howle, Knight, Mann, Zauscher, and Zhong; Assistant Professors Chen, Hotz, Protz, Yellen, and Zhao; Professor of the Practice Franzoni; Associate Research Professor Tang; Assistant Research Professors Simmons and Thomas; Senior Research Scientist Kielb; Adjunct Professor Lorente, Twiss; Adjunct Assistant Professor Stepp.
A major in mechanical engineering is available in this department. The mechanical engineering program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.*

Mechanical engineers are concerned with the optimum use of materials, energy, time, and individual effort to serve societal needs through the design of machines, structures, and mechanical and thermal systems, and through better understanding of dynamic processes involving these systems. They have a wide involvement in many industries including aerospace, biomechanical and biomedical engineering, construction, electronics, manufacturing, national defense, power generation, and transportation. Within these industries, the engineer might specialize in the design, analysis, automation, operation, or marketing of systems or services. The individual’s contribution may lie anywhere in the spectrum from highly theoretical to imminently practical, and often involves leadership as an engineering manager or organization executive.

Because mechanical engineers in industry and research engage in such a great variety of activities, their education must be broadly based. Although individual engineers may specialize within their industry positions or in graduate study, each must have the background needed to contribute in any of several technical areas, to combine knowledge of multiple topics when necessary, and to interact with members of other disciplines and professions in accomplishing broad goals. Thus the mechanical engineer's program of study must include fundamental grounding in mathematics and basic sciences, applications in several engineering sciences, and team-based experience in the process of design, where theory is applied in the context of real needs and limitations and where judgment must be exercised. Furthermore, to be a responsible member of the engineering profession, each graduate must be aware of social, ethical, environmental, and economic factors and constraints on engineering activity, and must understand the importance of these matters in a global context.

With these considerations in mind, the educational objectives of the undergraduate mechanical engineering program are to graduate students who:

- identify and address significant needs and challenges in engineering and society, and effectively communicate solutions
- advance in professional careers that may encompass a broad range of endeavors, both technical and non-technical
- exhibit intellectual depth and creativity in employment, advanced education, and research
- uphold high ethical standards and show a commitment to the betterment of society through service and professional work

The curriculum capitalizes on the exceptional abilities of our highly select students to cultivate the learning, thinking, and problem-solving abilities needed to adapt, to develop, and to exercise responsible leadership through times of rapid change. The program provides firm preparation in the essential engineering topics while allowing wide flexibility for students to pursue their own specialized interests.

**221L. Structure and Properties of Solids.** Introduction to materials science and engineering, emphasizing the relationships between the structure of a solid and its properties. Atomic and molecular origins of electrical, mechanical, and chemical behavior are treated in some detail for metals, alloys, polymers, ceramics, glasses, and composite materials. Prerequisites: Chemistry 20, 21, or 101DL and Engineering 201L or Biomedical Engineering 110L. Instructor: Curtarolo, Lazarides, Simmons, or Zauscher. One course.

**307. Transport Phenomena in Biological Systems (AC or GE, BB).** One course. C-L: see Biomedical Engineering 307; also C-L: Civil and Environmental Engineering 307, Modeling Biological Systems

**321L. Mechanical Engineering Analysis for Design.** Calculation of 3D stresses, strains, and deflections encountered in mechanical designs. Types of problems include: curved beams, contact stresses, press/shrink fits, etc. Reliability and uncertainty analysis, failure theories, fatigue, and fracture mechanics. Computational

* Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET) 111 Market Place, Suite 1050, Baltimore, MD 21202, telephone (410)347-7700
methods of analysis, such as finite elements analysis are covered. Prerequisites: Engineering 121L, 201L, 244L, and Mathematics 353. Instructor: Franzoni, Howle, Laursen, Zhao. One course.


**336L. Fluid Mechanics.** An introductory course emphasizing the application of the principles of conservation of mass, momentum, and energy in a fluid system. Physical properties of fluids, dimensional analysis and similitude, viscous effects and integral boundary layer theory, subsonic and supersonic flows, normal shockwaves. Selected laboratory work. Prerequisites: Engineering 244L and Mechanical Engineering 331L, Co-requisite or prerequisite: Mathematics 353. Instructor: Bliss, Howle, Knight, Shaughnessy, or Zhong. One course.

**344L. Control of Dynamic Systems.** Model dynamic systems and characterize time and frequency domain response with respect to particular inputs. Characterize systems in terms of rise-time, settling-time and bandwidth. Identify the difference between stable and unstable system. Apply feedback control to modify the response of dynamic systems based upon specified design objectives. Develop methods of designing compensators for single-input, single-output, and multiple-input, multiple-output dynamic systems based upon classical and modern control approaches. Introduce optimal control theory, the linear quadratic regulator (LQR) problem, and the linear quadratic Gaussian (LQG) problem. Gain a physical understanding of what can be accomplished with feedback control in modifying the dynamics of a system. Prerequisite: Engineering 224L and Mathematics 216. Instructor: Ferrari, Garg. One course.

**391. Undergraduate Projects in Mechanical Engineering.** Individual projects arranged in consultation with a faculty member. Open to students who show special aptitude for research and design. Taught in the Fall. Consent of director of undergraduate studies. Instructor: Staff. Variable credit.

**392. Undergraduate Projects in Mechanical Engineering.** Individual projects arranged in consultation with a faculty member. Open to students who show special aptitude for research and design. Taught in the Spring. Consent of director of undergraduate studies. Instructor: Staff. Variable credit.

**394. Engineering Undergraduate Fellows Projects.** Intensive research project in Mechanical Engineering by students selected as Engineering Undergraduate Fellows. Course credit is contingent upon satisfactory completion of 493 and 494. Consent of instructor and program director required. Instructor: Staff. One course.

**415L. Failure Analysis and Prevention.** A study and analysis of the causes of failure in engineering materials and the diagnosis of those causes. Elimination of failures through proper material selection, treatment, and use. Case histories. Examination of fracture surfaces. Laboratory investigations of different failure mechanisms. Prerequisites: Engineering 201L and Mechanical Engineering 221L. Instructor: Cocks. One course.


**421L. Mechanical Design.** A study of practical aspects of mechanical design including conceptualization, specifications, and selection of mechanical elements. The design and application of mechanical components such as gears, cams, bearings, springs, and shafts. Practice in application of process through design projects. Prerequisite: Engineering 244L and Mechanical Engineering 321L. Instructor: Franzoni, Howle, or Knight. One course.

**424L. Mechanical Systems Design.** An integrative design course addressing both creative and practical aspects of the design of systems. Development of the creative design process, including problem formulation and needs analysis, feasibility, legal, economic and human factors, aesthetics, safety, synthesis of alternatives, and design optimization. Application of design methods through several projects including a term design
project. Prerequisites: Mechanical Engineering 344L, 421L, and 431L. Instructor: Kielb or Knight. One course.


438. Constructal Theory and Design. Flow configuration in nature and engineering emerges from the constructal law of increase of flow access in time, when the flow system is endowed with freedom to morph. The course brings together the basic principles of fluid mechanics, heat transfer and thermodynamics, and teaches how to generate (to 'discover') shape and structure for energy flow systems. The course teaches design as science, and presents a paradigm that is applicable across the board, from engineering to biology, geophysics and social dynamics. Instructor: Bejan and Lorente. One course.

442. Introduction to Robotics and Automation. One course. C-L: see Electrical and Computer Engineering 383; also C-L: Information Science and Information Studies

445. Introduction to Vibrations. Mechanical vibrations are studied primarily with emphasis on application of analytical and computational methods to machine design and vibration control problems. A single degree-of-freedom system is use to determine free vibration characteristics and response to impulse, harmonic and periodic excitations. The study of two and three degree-of-freedom systems includes the determination of the eigenvalues and eigenvectors, and introduction to modal analysis. The finite element method is used to conduct basic vibration analysis of systems with a large number of degrees of freedom. The student learns how to balance rotating machines, and how to design suspension systems, isolation systems, vibration sensors, and tuned vibration absorbers. Prerequisite: Mechanical Engineering 344L. Instructor: Kielb. One course.


463. Electric Vehicle Project. One course. C-L: see Electrical and Computer Engineering 363L

472. Aircraft Performance. Brief overview of the aerodynamics of wings and bodies including profile and induced drag, performance of propellers and internal combustion and gas turbine power plants; the power curve and implications on the performance of the aircraft in steady-state and accelerated flight included power required, airspeeds to fly, takeoff and landing performance, performance of aircraft in turning flight; introduction to the conceptual design of new aircraft. Co-requisite: Mechanical Engineering 126. Instructor: Hall or staff. One course.

474. Jet and Rocket Propulsion. Performance and characteristics of rocket engines and aircraft gas turbine engines as determined by thermodynamic and fluid mechanic behavior of components: turbomachinery, combustion, nozzles and inlets, material limitations. Liquid, solid, and hybrid rockets. Turbojet, turbofan, and
turboprop gas turbines. Applications to space launch vehicles and jet aircraft. Prerequisites: Mechanical Engineering 331L, Mechanical Engineering 336L. Instructor: Protz or staff. One course.

490. Special Topics in Mechanical Engineering. Study arranged on a special engineering topic in which the faculty has particular interest and competence as a result of research and professional activities. Consent of instructor and director of undergraduate studies required. Half or one course. Instructor: Staff. Variable credit.

491. Special Projects in Mechanical Engineering. Individual projects arranged in consultation with a faculty member. Open only to seniors enrolled in the graduation with distinction program or showing special aptitude for research. Half course to two courses. To be taught in the Fall. Prerequisites: B average and consent of the director of undergraduate studies. Instructor: Staff. Variable credit.

492. Special Projects in Mechanical Engineering. Individual projects arranged in consultation with a faculty member. Open only to seniors enrolled in the graduation with distinction program or showing special aptitude for research. Half course to two courses. To be taught in the Spring. Prerequisites: B average and consent of the director of undergraduate studies. Instructor: Staff. Variable credit.


499. Undergraduate Research Seminar Series. For students enrolled in senior-level undergraduate research. Intended for those pursuing Graduation with Departmental Distinction. Course will give students an opportunity to present research results to their peers and faculty in mechanical engineering throughout the semester, as well as provide exposure to the research of other mechanical engineering seniors. 0.0 Credit. S/U. Permission of Instructor.

512. Thermodynamics of Electronic Materials. Basic thermodynamic concepts applied to solid state materials with emphasis on technologically relevant electronic materials such as silicon and GaAs. Thermodynamic functions, phase diagrams, solubilities and thermal equilibrium concentrations of point defects; nonequilibrium processes and the kinetic phenomena of diffusion, precipitation, and growth. Instructor: Tan. One course.


517. Electromagnetic Processes in Fluids. Electromagnetic processes and transport phenomena in fluids is overviewed. Topics to be discussed include: Maxwell's equations, statistical thermodynamic processes, origin of surface forces (i.e. Van der Waals), plasma in gases and electrolyte distribution, wave propagation near boundaries and in complex media, transport equations in continuum limit. Consent of instructor required. Instructor: Yellen.

518. Biomedical Materials and Artificial Organs (GE, BB). One course. C-L: see Biomedical Engineering 525

519. Soft Wet Materials and Interfaces. The materials science and engineering of soft wet materials and interfaces. Emphasis on the relationships between composition, structure, properties and performance of macromolecules, self-assembling colloidal systems, linear polymers and hydrogels in aqueous and nonaqueous liquid media, including the role of water as an "organizing" solvent. Applications of these materials in biotechnology, medical technology, microelectronic technology, and nature's own designs of biological materials. Instructor: Needham. One course.
524. **Introduction to the Finite Element Method.** One course. C-L: Civil and Environmental Engineering

525. **Nonlinear Finite Element Analysis.** One course. C-L: Civil and Environmental Engineering

527. **Buckling of Engineering Structures.** One course. C-L: Civil and Environmental Engineering


532. **Convective Heat Transfer.** Models and equations for fluid motion, the general energy equation, and transport properties. Exact, approximate, and boundary layer solutions for laminar flow heat transfer problems. Use of the principle of similarity and analogy in the solution of turbulent flow heat transfer. Two-phase flow, nucleation, boiling, and condensation heat and mass transfer. Instructor: Bejan. One course.

533. **Fundamentals of Heat Conduction.** Fourier heat conduction. Solution methods including separation of variables, transform calculus, complex variables. Green's function will be introduced to solve transient and steady-state heat conduction problems in rectangular, cylindrical, and spherical coordinates. Microscopic heat conduction mechanisms, thermophysical properties, Boltzmann transport equation. Prerequisite: Mathematics 111 or consent of instructor. Instructor: Bejan. One course.

534. **Fundamentals of Thermal Radiation.** Radiative properties of materials, radiation-materials interaction and radiative energy transfer. Emphasis on fundamental concepts including energy levels and electromagnetic waves as well as analytical methods for calculating radiative properties and radiation transfer in absorbing, emitting, and scattering media. Applications cover laser-material interactions in addition to traditional areas such as combustion and thermal insulation. Prerequisite: Mathematics 353 or consent of instructor. Instructor: Staff. One course.

536. **Compressible Fluid Flow.** Basic concepts of the flow of gases from the subsonic to the hypersonic regime. One-dimensional wave motion, the acoustic equations, and waves of finite amplitude. Effects of area change, friction, heat transfer, and shock on one-dimensional flow. Moving and oblique shock waves and Prandtl-Meyer expansion. Prerequisite: Mechanical Engineering 126 or equivalent. Instructor: Shaughnessy. One course.

537. **Mechanics of Viscous Fluids.** Equations of motion for a viscous fluid, constitutive equations for momentum and energy transfer obtained from second-law considerations, general properties and exact solutions of the Navier-Stokes and Stokes (creeping-flow) equations, applications to problems of blood flow in large and small vessels. Prerequisite: Mechanical Engineering 126 or equivalent. Instructor: Shaughnessy. One course.


techniques, analysis of systems behavior. Topics covered include: nondispersive and dispersive waves, multiple wave types (dilational, distortion), group velocity, impedance concepts including driving point impedances and moment impedances. Power and energy for different cases of wave propagation. Prerequisites: Engineering 244L and Mathematics 353 or consent of instructor. Instructor: Franzoni. One course. C-L: Civil and Environmental Engineering 626

544. Advanced Mechanical Vibrations. Advanced mechanical vibrations are studied primarily with emphasis on application of analytical and computational methods to machine design and vibration control problems. Equations of motion are developed using Lagrange's equations. A single degree-of-freedom system is used to determine free vibration characteristics and response to impulse, harmonic periodic excitations, and random. The study of two and three degree-of-freedom systems includes the determination of the eigenvalues and eigenvectors, and an in-depth study of modal analysis methods. The finite element method is used to conduct basic vibration analysis of systems with a large number of degrees of freedom. The student learns how to balance rotating machines, and how to design suspension systems, isolation systems, vibration sensors, and tuned vibration absorbers. Instructor: Kielb. One course.

545. Robot Control and Automation. Review of kinematics and dynamics of robotic devices; mechanical considerations in design of automated systems and processes, hydraulic and pneumatic control of components and circuits; stability analysis of robots involving nonlinearities; robotic sensors and interfacing; flexible manufacturing; man-machine interaction and safety consideration. Prerequisites: Mechanical Engineering 542 or equivalent and consent of instructor. Instructor: Garg. One course.

546. Intelligent Systems. An introductory course on learning and intelligent-systems techniques for the modeling and control of dynamical systems. Review of theoretical foundations in dynamical systems, and in static and dynamic optimization. Numerical methods and paradigms that exploit learning and optimization in order to deal with complexity, nonlinearity, and uncertainty. Investigation of theory and algorithms for neural networks, graphical models, and genetic algorithms. Interdisciplinary applications and demonstrations drawn from engineering and computer science, including but not limited to adaptive control, estimation, robot motion and sensor planning. Prerequisites: Mathematics 216 or 111. Consent of instructor required. Instructor: Ferrari. One course.

548. Multivariable Control. One course. C-L: Civil and Environmental Engineering 648

555. Advanced Topics in Mechanical Engineering. Opportunity for study of advanced subjects related to programs within mechanical engineering tailored to fit the requirements of a small group. Approval of director of undergraduate or graduate studies required. Instructor: Staff. Variable credit.

571. Aerodynamics. Fundamentals of aerodynamics applied to wings and bodies in subsonic and supersonic flow. Basic principles of fluid mechanics analytical methods for aerodynamic analysis. Two-and three-dimensional wing theory, slender-body theory, lifting surface methods, vortex and wave drag. Brief introduction to vehicle design, performance and dynamics. Special topics such as unsteady aerodynamics, vortex wake behavior, and propeller and rotor aerodynamics. This course is open only to undergraduate seniors and graduate students. Prerequisites: Mechanical Engineering 126 and Mathematics 353 or equivalent. Instructor: Bliss. One course.

572. Engineering Acoustics. Fundamentals of acoustics including sound generation, propagation, reflection, absorption, and scattering. Emphasis on basic principles and analytical methods in the description of wave motion and the characterization of sound fields. Applications including topics from noise control, sound reproduction, architectural acoustics, and aerodynamic noise. Occasional classroom or laboratory demonstration. This course is open only to undergraduate seniors and graduate students. Prerequisites: Mathematics 353 or equivalent or consent of instructor. Instructor: Bliss. One course.

626. Plates and Shells. One course. C-L: Civil and Environmental Engineering 646

631. Intermediate Fluid Mechanics. A survey of the principal concepts and equations of fluid mechanics, fluid statics, surface tension, the Eulerian and Lagrangian description, kinematics, Reynolds transport theorem, the differential and integral equations of motion, constitutive equations for a Newtonian fluid, the Navier-Stokes equations, and boundary conditions on velocity and stress at material interfaces. Instructor: Shaughnessy. One course.

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633. **Lubrication.** Derivation and application of the basic governing equations for lubrication; the Reynolds equation and energy equation for thin films. Analytical and computational solutions to the governing equations. Analysis and design of hydrostatic and hydrodynamic slider bearings and journal bearings. Introduction to the effects of fluid inertia and compressibility. Dynamic characteristics of a fluid film and effects of bearing design on dynamics of machinery. Prerequisites: Mathematics 353 and Mechanical Engineering 336L. Instructor: Knight. One course.

639. **Computational Fluid Mechanics and Heat Transfer.** An exposition of numerical techniques commonly used for the solution of partial differential equations encountered in engineering physics. Finite-difference schemes (which are well-suited for fluid mechanics problems); notions of accuracy, conservation, consistency, stability, and convergence. Recent applications of weighted residuals methods (Galerkin), finite-element methods, and grid generation techniques. Through specific examples, the student is guided to construct and assess the performance of the numerical scheme selected for the particular type of transport equation (parabolic, elliptic, or hyperbolic). Instructor: Howle. One course. C-L: Modeling Biological Systems

643. **Adaptive Structures: Dynamics and Control.** Integration of structural dynamics, linear systems theory, signal processing, transduction device dynamics, and control theory for modeling and design of adaptive structures. Classical and modern control approaches applied to reverberant plants. Fundamentals of adaptive feedforward control and its integration with feedback control. Presentation of a methodical design approach to adaptive systems and structures with emphasis on the physics of the system. Numerous MATLAB examples provided with course material as well as classroom and laboratory demonstrations. Instructor: Staff. One course.

668. **Cellular and Biosurface Engineering.** A combination of fundamental concepts in materials science, colloids, and interfaces that form a basis for characterizing: the physical properties of biopolymers, microparticles, artificial membranes, biological membranes, and cells; and the interactions of these materials at biofluid interfaces. Definition of the subject as a coherent discipline and application of its fundamental concepts to biology, medicine, and biotechnology. Prerequisite: Mechanical Engineering 208 or consent of instructor. Instructor: Needham. One course.


672. **Unsteady Aerodynamics.** Analytical and numerical methods for computing the unsteady aerodynamic behavior of airfoils and wings. Small disturbance approximation to the full potential equation. Unsteady vortex dynamics. Kelvin impulse and apparent mass concepts applied to unsteady flows. Two-dimensional unsteady thin airfoil theory. Time domain and frequency domain analyses of unsteady flows. Three-dimensional unsteady wing theory. Introduction to unsteady aerodynamic behavior of turbomachinery. Prerequisite: Mechanical Engineering 571. Instructor: Hall. One course.
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